

# INDEX

Forty-eighth Quarto Volume—January 1, 1910, to June 30, 1910

## AUTHORS

- Angier, F. J., 408, 1124  
 Ames, Azel, 440  
 Allman, William N., 310  
 Allen, W. F., 405  
 Acworth, W. M., 1077  
 Arkenburgh, W. H., 446, 1422
- Barnum, M. K., 1136  
 Benjamin, Prof. C. H., 1038  
 Boardman, Bradford, 344  
 Boardman, W. H., 634, 1084  
 Boyden, J. A., 1166  
 Brace, James H., 19  
 Brooke, G. D., 1542  
 Burlingame, Charles, 827  
 Byram, H. E., 440
- Candee, C. A., 299  
 Cantwell, Herbert H., 295  
 Carpenter, Sidney C., 179  
 Cartlidge, C. H., 1045  
 Chaney, C. B., Jr., 1294  
 Chaplin, F. G., 226  
 Clark, F. H., 1485  
 Collyer, R. N., 1334  
 Creary, Thomas, 871  
 Curtis, D. C., 1264
- Davies, J. Vipond, 731  
 Davis, A. S., 39  
 Dean, F. W., 227, 295, 1404  
 Dewsnap, Ernest Ritson, 1208  
 Dickinson, W. M., 1265  
 Drazy, C. H., 1267  
 Drinkwater, J., 342  
 Drury, C. J., 496, 1345  
 Dunn, Col. B. W., 1035  
 Dunn, Samuel O., 817, 1078, 1781
- Emerson, Harrington, 1143
- Fowler, George F., 260, 469, 897  
 Frisk, C. V., 503  
 Fry, Lawford H., 175
- Gaines, F. F., 243  
 Gantt, H. L., 1159  
 Gibbs, George, 829  
 Goddard, C. F., 295  
 Goodwin, George S., 982  
 Graham, Ernest, 23  
 Granger, L. M., 502  
 Gray, Henry L., 1297
- Hale, Arthur, 175, 525, 740, 1248  
 Haney, Lewis H., 516
- Hansel, Charles, 819  
 Hatch, W. J., 1254  
 Hays, Robert, 182  
 Herold, E. E., 1268  
 Hill, Edgar Logan, 344  
 Hine, Major Charles, 134  
 Hines, Walter D., 1129  
 Hoffmark, R. F., 303  
 Huebner, G. G., Ph.D., 316
- Jackson, Luis, 1128  
 Jacobs, H. W., 1535  
 Jefferson Union Company, 1484  
 Job, Robert, 523  
 Johnson, Emory R., 306
- Kellogg, D. P., 497  
 Kendrick, J. W., 597, 636  
 Kouns, C. W., 557
- Lane, Francis W., 1468, 1515, 1637  
 Lassiter, C. K., 1360  
 Lavis, F., 816  
 Lawrence, J. C., 359, 859  
 Leech, C. C., 492  
 Lemmerich, Gustav T., 1029  
 Leyton, Henry, 341  
 Lister, F. E., 47, 229, 873, 1367  
 Lowe, A., 40
- M'Auliffe, Eugene, 1404  
 McFarland, H. B., 1249  
 McKelligon, A. S., 1261  
 McKernan, E. J., 41, 494  
 McNab, William, 610  
 McPherson, Logan G., 95, 142, 190, 528  
 Mahl, William, 440, 1249  
 Mason, Francis, 19  
 Mears, N. A., 1263  
 Mohler, Charles K., 988
- Newlean, H. R., 487  
 Nicholson, F. L., 399
- Ogden, T. H., 1161  
 Owen, Elmo N., 489, 1347
- Payne, J. L., 98  
 Payson, George S., 129  
 Perritt, J. F., 44  
 Perry, J. P. H., 687  
 Phillips, R. H., 1294  
 Pickard, F. C., 33
- Plaisted, F. H., 1196, 1256  
 Pomeroy, L. R., 353  
 Porter, A. D., 43  
 Prescott, Charles F., 83, 228, 391, 1077, 1405  
 Prior, J. H., 1406
- Rande, H. G., 391  
 Raymond, William G., 391, 937  
 Reed, F. D., 1263  
 Reinisch, E. F. A., 32  
 Reyer, William G., 490, 1140  
 Richmond, Frank, 859  
 Ripley, William Z., 862  
 Roberts, George H., 1141  
 Rost, C. H., 1262  
 Russ, J. F., 149
- Sanderson, R. P. C., 816  
 Schneider, Prof. Herman, 1170  
 Schumacher, P., 894  
 Sheafe, J. S., 1142  
 Sheldon, J. B., 935  
 Slaughter, J. F., 1263  
 Snyder, W. H., 37, 491  
 Speare, Charles F., 395  
 Spidy, E. T., 1346  
 Stanton, George R., 981  
 Stetson, Francis Lynde, 391  
 Stevenson, James, 503, 1352  
 Stoeck, H. H., 1301  
 Sturgis, C. L., 944
- Tajanie, Ph., 1130  
 Talbot, E. H., 193  
 Tate, J. B., 937  
 Taylor, H. D., 227  
 Thompson, W. O., 177  
 Totten, Robert C., 1731
- Van Langendonck, C., 1001  
 Van Zandt, J. G., 1547, 1788  
 Voegelé, Frederick E., 983
- Waldron, J. M., 1554  
 Webster, Edwin S., 185  
 Webster, S. D., 1780  
 Wells, J. Hollis, 731  
 Whiting, Frank V., 1786  
 Wildin, G. W., 1683  
 Wilms, W. H., 4542  
 Woodworth, R. B., 519, 728, 824, 859, 939  
 Wright, Roy V., 1149, 1353
- York, James E., 296

# GENERAL INDEX

[Illustrated articles are indicated thus\*; Editorials thus†; Letters to Editor thus.]

## A

Abrasive (See also Machine Tools)  
Composition and Action of, 1241\*  
Accident (See also Employees):  
Arrests of Innocent Locomotive Runners, 1271  
Canadian Pacific at Webbwood, Ont., 195, 451  
Chicago Great Western at Green Mountain, Iowa, 841  
Collision at Villepreux, France, 1803  
Gladbrook Derailment, 779†  
Great Northern, in the Cascades, 459, 536  
Interstate Commerce Commission Bulletins, 387†, 407, 442, 1073†, 1088  
Lancashire & Yorkshire at Townley, 1269  
Law to Require Monthly Reports, 1175  
Lehigh & Hudson at Woodruff's Gap, 321  
London, Brighton & South Coast at Stoot's Nest, 267  
Monthly Summaries: Dec., 1909, 297; Jan., 1910, 352, 440†; Feb., 816; March, 1026†, 1040; April, 1342; May, 1800  
Mulheim Collision, 1005, 1121†, 1173  
N. Y. C. & H. R. at Croton, 254, 294†  
Penna. R. R. Reports, Two Years Ending December 31, 1909, 1332\*  
Railway as Press Agent, 858†  
Specialist in Prevention of, 905, 1193\*  
Value of Care in Freight Yard Work, 827\*

Accounting (See also Maintenance of Way, also Interstate Commerce Commission):  
Annual Reports, Information in, 395  
Cost Keeping, 931†  
Depreciation Reserves, 440, 944, 1249, 1290†, 1297  
Interpretation of Railway Statistics, 1208  
Ton-Mile Statistics, 1248†  
Statistics of Railways for Year Ended June 30, 1908, 1332\*  
Valuation of Railway Property in Texas, 1271

Acetylene (See Shop Kinks; also Welding)  
Adams & Westlake Co.:  
Car Lighting Fixtures, 1520  
Lanterns, 653\*, 1727  
Long-Time Burners, 714\*  
Train Indicating Lamp, 586\*  
Removable Bottom Basket Rack, 1473\*  
Signal Lamps, 1758  
Adams Express Co.:  
Dispute with the N. Y., N. H. & H., 57  
Advance Machinery Co.:  
Wetmore Glee Room Appliances, 286\*  
Advance Power Co.:  
Inspection Car, 1023\*  
Air Brake (See Brake; also Shop Kinks)  
Air Brake Association:  
Annual Convention, 1250  
Air Brake Law:  
Change in, 1556  
Air Compressor (See also Shop Kinks):  
Franklin Gas Driven Air Compressor, 641\* 1724\*  
Air Purifier, 1607\*, 1724\*  
Airship Flights:  
Albany to New York, 1379  
Governor's Island to Philadelphia, 1557  
With Passengers, 1815  
Allith Mfg. Co.:  
Door Hanger, 652\*  
Fire Door Hardware, 585\*  
Parallel Door Equipment, 715\*  
Alternating Current Grinding Equipment, 554\*  
American Blower Co.:  
ABC Motor-Driven Blower, 1670\*  
Sirocco Electric Fan, 1774\*  
Ventilating Tunnels and Subways, 1724  
Ventilation in the Hudson River Tubes, 1758  
American Brake Shoe & Foundry Co.:  
Exhibit, 1672\*  
R-N-R Frog, 641\*, 707  
American Bridge Co.:  
Steel Barges, 1441\*  
American Castings Co.:  
Lock Joint Cast Iron Culvert Pipe, 706\*  
American Express Co.:  
Oregon & Washington, 1173  
American Locomotive Co.:  
Consolidation Locomotive, 1157\*  
Mallet for Columbia National, 357\*  
Mallet Locomotive, D. & H., 1303\*  
Train Resistance Pamphlet, 718†  
American Mason Safety Tread Co.:  
Karbolith for Steel Car Floors, 1475  
Mason Safety Tread, 1528\*  
American Nut & Bolt Fastener Co.:  
Bartley Nut and Bolt Fastener, 1603  
American Railway Association:  
Car Balance and Performance Reports, Monthly, 61, 201, etc.  
Car Surplus and Shortage: Bi-Weekly Reports, 61\*, 159\*, etc.  
Spring Session, 1298

American Railway Engineering and Maintenance of Way Association:  
Annual Dinner, 683\*  
Annual Convention, 610\*, 765†  
Eleventh Birthday, 771  
List of Exhibitors at Chicago, 431  
Manual of Recommended Practice, 555†  
Organizing the Convention at Chicago, 766  
Work of the Association, 556†  
American Railway Master Mechanics' Association:  
Address of President Wildin, 1691†  
Consolidation with the M. C. B., 1444†, 1513, 1612†, 1614, 1729†, 1769  
List of Exhibitors at Atlantic City, 507  
Opening Session of Convention, 1689†  
Proceedings, 1692\*, 1732\*, 1763\*  
Railway Representatives' Expenses, 1611†  
Special Train for Conventions at Atlantic City, 1219  
Twenty Years Ago, 1649†  
American Railway Steel Tie Co.:  
Snyder Steel Tie, 587\*, 708  
American Rolling Mill Co.:  
Ingot Iron, 709\*, 807\*, 1756  
American Saw Mill Machinery Co.:  
American Triumph Planer, Matcher and Molder, 289\*  
American Society of Mechanical Engineers:  
Year Book, 449  
American Steel Foundries:  
Cast Steel Brake Beam, 1775\*  
C. I. and Elliptic Springs, 1528\*  
Couplers, 1645\*  
Draft Arms and Bolsters, 1727\*  
Exhibit, 1530  
Miscellaneous Castings, 1610\*  
Side Frames and Side Bearings, 1675\*  
Simplex Passenger Coupler, 1759\*  
American Telephone & Telegraph:  
Western Union Stock Holding, 365  
American Tool Works Co.:  
Universal Triple-Geared Radial Drill, 1397\*  
American Valve & Meter Co.:  
Automatic Float Valve, 1072\*  
Angle Bar (See Rail Joint)  
Annual Reports (See corporation names; also Accounting)  
Autogenous Welding (See Welding)  
Arbitration (See Employee; also Canada)  
Arch (See Bridge)  
Argentine Republic:  
Railway Exhibition, 341†  
Armspear Mfg. Co.:  
Switch and Semaphore Lamps, 582  
Arizona Eastern:  
Incorporation, 417  
Ash Pan (See Locomotive Firebox)  
Assoc. of Transportation and Car Accounting Officers:  
Winter Meeting, 6  
Aichison, Topeka & Santa Fe:  
Agricultural Department, 1428  
California Limited Schedule, 449  
Improvements in Section Work, 556†, 557  
Locomotive 232,000 Miles Without Shopping, 1715\*  
Mallet Locomotive Tender, 131\*  
Reading Room for Employees, 57  
Train Despatching by Telephone, 420, 471  
Atlantic City:  
Destinability for Convention City, 1443†, 1761†  
Auditing (See Accounting)  
Austro-Hungary:  
Tools in, 735  
Automatic Stops (See Safety Appliances)  
Axle (See also Locomotive; also Shop Kinks):  
Axle to Carry 50,000 lbs., 1627\*  
Silicon in Steel Axles, 1578†

## B

Baldwin Locomotive Works:  
Atlantic Tyne Locomotive for the B. & O., 1255\*  
History, 147\*  
Mallet for the Burlington, 1213\*  
Mogul Loco. for Tientsin Peking Ry., 444\*  
Vauclain Compound Running Gear, 320\*  
Baltimore & Ohio:  
Atlantic Tyne Locomotive, 1255\*  
Automatic Block Signals, 169  
Bridge at Havre de Grace, 154  
Electric Locomotives, 742  
Mt. Clare Shops, 229\*, 1051  
Progress Since 1896, 103  
Scherzer Rolling Lift Bridge, 709  
Barrett Mfg. Co.:  
Factory Flooring, 215\*  
Bascule (See Bridge)  
Baseball Game at M. C. B. and M. M. Convention, 1613, 1662\*  
Bausch & Lomb:  
Optics, 809  
Transit, 711\*

Beaver Dam Malleable Iron Co.:  
Rail Brace, 652\*  
Bearing (See also Machine Tools; also Shop Kinks):  
Anti-friction Center and Side Bearings, 335\*  
Casting Driving Bearings in the Box, 27\*  
Faessler Removable Driving Box Bearing, 1646  
Journal Box Covers, 1442\*  
King Metallic Packing, 1648\*  
Owen-Cochran Pressed Steel Journal Box, 1609\*  
Palmetto Packing, 1687\*  
Side Frames and Side Bearings, 1675\*  
Vanadium Bronze as a Bearing Metal, 1681\*

Belgium:  
Transportation and Traffic, 190  
Belting:  
Clamp and Stretcher, 41\*  
Gutta-Balata Belting, 1476  
Berth Lamp (See Lighting)  
Bettendorf Axle Vo.:  
Cast Steel Truck Frames, 1472\*  
Dismantling and Assembling the Bettendorf Truck, 1605\*  
Exhibit, 1521  
Plant, 1673\*

Betts Machine Co.:  
Tire Mills, 510\*  
Bickford Tool Co.:  
Drill Press, Cincinnati Upright, 75\*  
Bignall & Keeler Mfg. Co.:  
Pipe Machine, 510\*  
Bills of Lading:  
Foreign Bankers and Bills of Lading, 1806  
Forged, 1179  
Limited Liability, 1180  
Bird, F. W., & Son:  
Main Mills, 856\*  
Bird, J. A. & W., & Co.:  
Rough Enamel Paint, 714  
Blacksmiths (See Shop Kinks)  
Block Signal (See Signal Block)  
Block Signal and Train Control Board:  
Tests of Harrington's Automatic Stop, 1120  
Blowing Equipment, 1670  
Blue Island Rolling Mill & Car Co.:  
Suit Against Illinois Central, 1052  
Blue Prints, 588  
Bogue, Virgin G., 196  
Boiler (See Locomotive Boiler)  
Boiler Shops (See Shops)  
Bolt (See Rail Joint; also Machine Tools; also Shop Kinks)  
Bossert, W. F., Mfg. Co.:  
Rail Joint, 649  
Triple Lock Switch Stand, 581, 856\*  
Boston & Albany:  
Mallet Locomotive, 889\*  
Boston & Maine:  
Merger with N. Y., N. H. & H., 293†  
Tunnel, 536  
Boston Belting Co.:  
Gutta-Balata Belting, 1476  
Boston Terminal Co.:  
Valuation of Property, 1243†  
Bowser, S. F., & Co.:  
Oil Storage Systems, 1480\*, 1672  
Boyle, John, & Co.:  
Car Roofing, 1475  
Brake (See also Air Brake Assoc.; also Shop Kinks; also Coupling; also Hose; also Safety Appliances):  
Automatic Brake Slack Adjuster, 1757  
Brake Riggings, 1443†  
Brill Brake Hanger, 1672  
Cast Steel Brake Beam, 1775\*  
Davis Air Brake, 1678\*  
Davis Steel Back Brake Shoe, 1473\*  
Double Truss Brake Beam, 1475\*  
Drop Brake Staff, 1647\*  
Elizabethport Air Brake Shop, 875  
High Speed Brake Beam, 1574\*  
Requirements for Improved Passenger Brakes, 1484†  
Specifications for Brake Shoes, 1578†  
Tests of Brake Shoes, 1497\*  
Train Brake and Signal Equipment, 1491\*  
Wood's Nipple End Protector and Bracket, 1523

Brazil:  
Timber in, 1102  
Bridge (See also Construction, New; also Grade Separation; also Trestle):  
B. & O., Havre de Grace, 154  
C. & N. W. at Clinton, 85\*  
C. & N. W. Grade Change of Oak Park Elevated, 737\*  
C. M. & St. P. Missouri River Bridge, 1406\*  
Concrete Culvert Construction, 1122†  
Concrete Trestles, 1045\*  
Eight-Track Scherzer Bridge at Chicago, 565\*, 642

**Bridge (Continued):**

- Hudson River Bridge, 267  
 Iron and Steel Structures, 601\*, 618  
 N. Y., N. H. & H. Concrete Viaduct at New Haven, 394\*  
 Norfolk & Southern Over Albermarle Sound, 198  
 Pilling Tractor for Swing Bridges, 122\*  
 Plant of the Lackawanna Bridge Co., 216  
 Scherzer Rolling Life Bridge, Galveston Causeway, 581  
 Scherzer Rolling Lift Bridge of the B. & O., 709  
 Strauss Trunion Bridges in Europe, 583  
 Wooden Bridges and Trestles, 598\*, 619  
 Brill, J. G., Co.:  
 Brake Hanger, 1672  
 M. C. B. Passenger Trucks, 1604\*  
 Solid Forged Wheel Pieces, 1726  
 Britain (See also names; also subjects):  
 Cost of Renewals of Permanent Way of British Railways, 576\*  
 Electric Railways in Great Britain, 416  
 General Election, 124†  
 Locomotive Practice, 340†  
 Workmen's Compensation Act, 1025†  
 Buck Boring Bar Co.:  
 Expansion Boring Bar, 926\*  
 Buda Company:  
 Car Replacer, 583\*  
 Crossing Gates, 711\*  
 Motor Inspection Car, 649\*  
 Buenos Ayres and Pacific:  
 Trip from Buenos Ayres to Mendoza, 177\*  
 Buffalo Brake Beam Co.:  
 Double Truss Brake Beam, 1475\*  
 Buildings (See Maintenance of Way)  
 Bumping Post:  
 Concrete, D. L. & W., 10\*  
 Bureau for the Safe Transportation of Explosives:  
 Circular, 957  
 Collision Stresses, 1035\*  
 Burton Track-Laying Machine Co.:  
 Track-Laying Machine, 1024  
 Business Situation (See Finance; also Railway Business Assoc.)

**C****Cabin Car:**

- Tools and Supplies for, 314  
 Cable (See Wire)  
 Cab Signal (See Signal)  
 Calhoun, W. J.:  
 Dinner to, 579  
 Cambria Steel Co.:  
 Oil Treated Rail Joints, 650\*  
 Canada:  
 Law to Facilitate Mediation, 1173  
 Railways on Paper, 1102  
 Railway Situation, 98\*  
 Canadian Northern:  
 Steamships Between Montreal, Canada, and Bristol, England, 843  
 Canadian Pacific:  
 Box Car, Steel Frame, 97\*  
 Colonization of Canada, 184  
 Comparison with Other Northwestern Roads, 368  
 Land Sales in Bow River Valley, 455  
 Light-Saving Scheme, 1269  
 Railway Situation in Canada, 98\*  
 Ready-Made Farms, 1320  
 "Shopping" a Locomotive, 58\*  
 Canadian Pilling Co.:  
 Pilling Tractor for Swing Bridges, 122\*  
 Canadian Railway Commission (See State Commission Rulings)  
 Canal (See also Waterways):  
 New York State Barge, 57, 103  
 Panama (See Panama Canal)  
 Sault Ste. Marie, Traffic Through, 60  
 Cans:  
 Corrugated Steel for, 924  
 Canton Culvert Co.:  
 Corrugated Metal Culverts, 706\*  
 Car (See also Cabin Car; also Maintenance of Equipment; also Shop Kinks):  
 All-Metal Inside Roof, 1646\*, 1685\*  
 All-Steel Baggage for Hudson & Manhattan, 734\*  
 All Steel-Steel Carline Roof, 1522\*  
 Baggage Cars; A., T. & S. F., 1669\*  
 Baggage Car; C. R. I. & P., 1598\*  
 Box, Steel Frame, C. P. R., 97\*  
 Brinkerhoff Car Side Construction, 1524\*  
 Car Repair Department Shop, 1149\*  
 Car Repair Shop Notes, 1133†  
 Car Seat Covering, 1481  
 Car Steps with Mason Safety Tread, 1528\*  
 Classification of Cars (See Car Service)  
 Cleaning by the Vacuum Process, 1644\*  
 Coach Cleaning at Terminals, 1527\*  
 Corrugated Steel End for Box Cars, 1603\*  
 Depreciation (See Accounting)  
 Dinahragms, 1476  
 Dining, New York Central & Hudson River, 447\*  
 Door (See Door)  
 Framing, Roofs and Doors, 1593\*  
 Gasolene (See Motor Car)  
 Gyroscope, Monorail, 104, 138\*, 295†  
 Hatch Ventilator and Plug, 1607\*  
 Hand, Push and Velocipede, 707  
 Heating (See Heating)

**Car (Continued):**

- Inspection (See Motor Car)  
 Insulation of Steel Passenger Cars, 1466, 1577†  
 Interchange (See Car Service)  
 Journal (See Bearings)  
 King Lawson Dump Cars, 582  
 Life of Steel, 1153  
 Light Center Sills, 812†, 981†  
 Lighting (See Lighting)  
 Model Refrigerator Car, 1609\*  
 Motor (See Motor Car)  
 Ordered in 1909, 102  
 Postal Car; Mo. Pac., 1640\*  
 Private Car for the Queen of England, 1001\*  
 Quick Dumping Ore Car, 1466\*  
 Rail Motor (See Motor Car)  
 Refrigerator Cars, Dripping from, 1623\*  
 Removable Bulkhead Partitions, 1520\*  
 Repair Shops (See Shops; also Shop Kinks)  
 Seat Covering, 1648  
 Section Hand Cars, 1527\*  
 Splicing Underframing, 1592\*  
 Spring (See Spring)  
 Steel Box for Union Pacific, 308\*  
 Steel in Car Construction, 891  
 Steel Passenger Cars on the Pennsylvania, 367\*  
 Steel Pullman Sleeping Car, 1084\*  
 Stresses Developed by Collisions of Freight Cars, 1035\*  
 Suburban for S. F. O. & S. J. Tank Cars, 1594  
 Truck (See Truck)  
 Ventilation (See Ventilation)  
 Vestibule (See Vestibule)  
 Wheel (See Wheel)  
 Car, Freight:  
 Can. Pac., Steel Frame Box, 97\*  
 Union Pacific, Steel Box Car, 308\*  
 Car Loading:  
 Loading Long Material, 1577†  
 Rules for Loading Material, 1506\*  
 Car, Passenger:  
 British Royal Car, 1001\*  
 C. R. I. & P., Baggage Car, 1598\*  
 Disinfecting of Passenger Coaches, 894\*  
 Fairbanks, Morse Gasolene, 73  
 Missouri Pacific Steel Postal, 1640\*  
 N. Y. C. & H. R., Dining Car, 447\*  
 Penna. R. R., Pullman Steel Sleeping Car, 1084\*  
 Penn. R. R., Steel Passenger, 67\*  
 San Francisco, Oakland & San Jose, Suburban, 122\*  
 Santa Fe Baggage Car, 1669\*  
 Car Replacers:  
 Buda, 583\*  
 Gump, 652\*  
 Car Service (See also Interstate Commerce Commission Rulings; also Freight):  
 Assoc. Trans. and Car Accounting Officers, 6  
 Car Interchange at Niagara Frontier, 177  
 Carload Ratings and Mixed Carloads, 1334  
 Classification of Cars, 1620\*  
 Coal Car Distribution, 108, 175†, 274  
 Delays of Cars at Interchange Points, 1379  
 Demurrage, Michigan, 1073†  
 Demurrage Rate \$6, 1025†  
 Freight Car Balance and Performance, Monthly, 61, 201, etc.  
 Freight Car Service Throughout the World, 448  
 German Freight Car Pool, 405  
 Inspection, 139, 226†, 391†  
 National Demurrage Rules and Gen. Elec., 1057  
 Package Car Service from St. Louis, 157  
 Per Diem Rate, 79†, 222†, 393, 415  
 Railway Clearing House, 525\*, 740  
 Rejecting Loaded Freight Cars, 139, 226, 391†  
 Report of the Bureau of Explosives, 811†, 818  
 Revision of Rules of Interchange, 1581\*  
 Six-Dollar Demurrage, 535  
 Summary of Freight Cars in Service, 1545  
 Superintendents' Views on Freight Car Interchange, 1219  
 Surplus and Shortage, American Ry. Assoc. Reports, 61\*, 159\*, etc., Bi-Weekly  
 Transportation of Perishable Freight, 448  
 Twenty-four Hours' Free Time for Re-consigning of Grain, 962  
 Twenty-eight Hour Law, 746  
 Uniform Demurrage Rules at Chicago, 453  
 Value of Union Terminal Organization, 717†, 737  
 Car Shortage (See Car Service)  
 Carolina, Clinchfield & Ohio:  
 Traffic Agreement with the Southern Railway, 452  
 Casting (See Iron and Steel; also Shop Kinks):  
 Transporting a Heavy, 841  
 Cement (See Concrete)  
 Central Iron & Steel Co.:  
 Snyder Steel Tie, 587\*, 708

**Central of Georgia:**

- Engine Drop Pit and Table, 264\*  
 Shops at Macon, Ga., 243\*  
 Central of New Jersey:  
 Elizabethport Shop Kinks, 873\*  
 Shop Kinks, 1146\*  
 Central Pacific (See Southern Pacific):  
 Electrification Over the Sierras, 101  
 Central South African Ry.:  
 Unit System of Organization, 364  
 Chesapeake & Ohio:  
 Acquisition of Hocking Valley, 812\*†  
 Chicago & Alton:  
 Cost of Service and the Alton Case, 222†, 295†  
 Good Winter Service, 1101  
 Indicted at Kansas City, 1180  
 Chicago & North Western:  
 Clinton Bridge, 85\*  
 Interlocking Plant at Chicago, 335, 385  
 Oil-Burning Locomotives, 1052  
 Revision of Oak Park Elevated, 737  
 Terminal Station at Chicago, 314\*  
 Chicago & Western Indiana:  
 Alleged Real Estate Frauds, 197, 319, 1051, 1174, 1221  
 Chicago Bridge & Iron Co.:  
 Steel Railway Tanks, 716\*  
 Chicago, Burlington & Quincy:  
 Concrete Trestle, 1045\*  
 Conscience Fund, 1272  
 Mallet Locomotive, 1213\*  
 Motive Power Department, 1136\*  
 Relief Department, 1104  
 Train Despatching by Telephone, 419  
 Chicago Great Western:  
 Automatic Block Signals, 73  
 Derailment at Gladbrook, 1779†  
 Derailment at Green Mountain, Iowa, 841  
 Motor Cars in Zero Weather, 856\*  
 New Locomotives, 313\*  
 Chicago, Milwaukee & Puget Sound:  
 Conditions on, 906  
 Chicago, Milwaukee & St. Paul (See also Chicago, Milwaukee & Puget Sound):  
 Bridge Over the Missouri River at Moberly, S. Dak., 1406\*  
 Car Wheel Foundry, 897\*  
 Comparison with Other Northwestern Roads, 363  
 Foundry Methods, 569†  
 Pacific Locomotive, 1639\*  
 Shop Kinks, 1349\*  
 Track Elevation, Evanston, 950\*  
 Chicago, Peoria & St. Louis:  
 Increase in Passenger Rate, 426  
 Chicago Pneumatic Co.:  
 Franklin Air Compressor, 1724\*  
 Keller Chipping Hammer, 1723  
 Pneumatic Tools, 632\*  
 Chicago, Rock Island & Pacific:  
 Baggage Car, 1598\*  
 China (See names of roads)  
 Cincinnati, New Orleans & Texas Pacific:  
 Track Inspection, 1272  
 Cincinnati Planer Co.:  
 Forge Planer, 75\*  
 Claims (See also Car Service):  
 Carelessness (?) Amounting to Dishonesty, 1780†  
 Claim Agent Should Educate Us, 149  
 Compensation and Compensation Acts, 1786  
 South Carolina Penalty, 426  
 Texas Law, 1103  
 Clamp (See also Shop Kinks):  
 Never Slip Safety, 1192\*  
 Clark, Frank H., 1445  
 Cleaning (See Car)  
 Clearing House (See Car Service)  
 Cleveland, Cincinnati, Chicago & St. Louis:  
 Annual Report, 722†, 763  
 Sandwich Selector, 336\*  
 Train Despatching by Telephone, 102  
 Coal (See also International Ry. Fuel Assoc.; also Freight Rates; also Fuel):  
 Amount of Coal Used by Railways, 765†  
 Education an Essential of Fuel Economy, 1703  
 Grade of Fuel Most Suitable, 1300  
 Methods of Purchasing Fuel, 1300  
 Relation Between Coal Companies and the Railways, 324  
 Tests of Washed Grades of Illinois Coal, 1218  
 Transportation and Handling of Steam Coal, 1201\*, 1796\*  
 Unit Coal and the Composition of Coal Ash, 1125  
 Weathering of, 1081  
 Wheeling & L. E. Coal Tests, 1049  
 Coaling Stations, 1776\*  
 Concrete Locomotive Coaling Station, 659\*  
 Incline Coal Car Haul Hoists, 692  
 College (see names)  
 Colonization:  
 C. P. R. Colonization, 184  
 Commonwealth Steel Co.:  
 Transom Draft Gear, 1521\*  
 Compressed Air (See Shop Kinks; also Machine Tools)  
 Concrete (See also Bridge):  
 Concrete Culvert Construction, 1122†  
 Fence for the Long Island, 687\*



## GENERAL INDEX—Continued.

[Illustrated articles are indicated thus\*; Editorials thus†; Letters to Editor thus‡.]

Concrete (Continued):  
 Fence Posts, 707\*, 712  
 Havemeyer Bar for Reinforcing, 805  
 Masonry, 703  
 Reinforcement Bar Specifications, 1777†, 1801  
 Retaining Walls, 979†, 988\*, 1294†  
 Standard Specifications for Cement, 682, 697  
 Concrete-Steel Co.:  
 Havemeyer Bars, 805  
 Conduit for Cables:  
 J-M Fibre Conduit, 1120\*  
 Connecticut:  
 Railway Commission, 1401†  
 Two-Track and Four-Track Lines in, 1048\*  
 Consolidated Car Heating Co.:  
 Electric Boiler, 1680\*  
 Construction, New (See also Tunnel):  
 Chicago, 655†  
 Competitive Railway Building in the Des Chutes River Canyon, 767\*  
 Economics of Location, 655†, 657†, 662\*, 673  
 Grade Separation in Joliet, Ill., 627\*  
 Kensington & Eastern, 772\*  
 N. Y., N. H. & H., Harlem River Branch, 186\*, 257\*  
 Panama Railroad, 303\*  
 Railway Extensions in Trinidad, 867\*  
 Southern Pacific, Colfax Grade Revision, 344\*  
 Subways in New York, 1102  
 Track Elevation, Evanston, 950\*  
 Contour Indicator, 955\*  
 Control (See Finance; also Government Regulation of Railways)  
 Controller:  
 Slip Ring Motor Controller, 1399\*  
 Conventions (See names of associations)  
 Conveying Machinery (See Hoisting and Conveying)  
 Cooling (See Refrigeration)  
 Cooper-Hewitt Lamp Co.:  
 Illumination of a Locomotive Erecting Shop, 1676\*  
 Cost of Living Increased, 983\*  
 Coupler (See Draft Gear)  
 Coupling (See Hose)  
 Crane (See Hoisting and Conveying)  
 Crawford Locomotive & Car Co.:  
 Locomotive and Car Works, 1606\*  
 Credit (See Finance)  
 Creosote (See Ties and Timber)  
 Crop Conditions, 1009, 1227  
 Crossing (See Rail; also Grade Separation)  
 Crossing Gates:  
 Buda Company, 711\*  
 Wilson Railway Gate, 810\*  
 Cuba:  
 Railway Building, 138  
 Culvert (See Maintenance of Way; also Bridge):  
 Corrugated Culvert Pipe, 633\*, 706\*  
 Curtain Supply Co.:  
 Diaphragms, 1476  
 Exhibit, 1603\*  
 Curtis, Theodore H., 1612†, 1771

## D

Daily Technical Newspaper, Making a, 642\*  
 Damages (See Claims)  
 Davis Solid Truss Brake Beam Co.:  
 Air Brake, 1678\*  
 Brake Shoe, 1473\*  
 Dearborn Drug & Chemical Works:  
 Feed Water Treatment, 1688  
 Methods, 1481\*  
 Removal, 554  
 Delaware & Hudson:  
 Annual Report, 935\*†, 971  
 False Warehouse Receipts, 1317  
 Increase of Pay, 433  
 Mallet Locomotive, 1303\*  
 School for Station Agents, 724  
 Unloading by Immersion, 1054  
 Delaware, Lackawanna & Western:  
 Annual Report, 934\*†  
 Car Repair Shop and Mill, 1353\*  
 Concrete Bumping Post, 10\*  
 Power Development for the Scranton Shops 7\*  
 Suit to Compel Track Connection, 541  
 Tool Layout at Scranton Shops, 221†, 260\*  
 Demurrage (See Car Service)  
 Denver & Rio Grande:  
 Vegetable Shipments, 421  
 Depreciation (See Accounting)  
 Derailer:  
 Clamp Derailer, 589\*  
 Derrick (See Hoisting and Conveying)  
 Detroit Lubricator Co.:  
 Exhibit, 1684\*  
 Transferring Oil to the Lubricator Reservoir, 1728  
 Detroit River Tunnel:  
 Engineering Features of, 1092\*  
 Discipline (See Employee)  
 Disinfecting Passenger Coaches, 894\*

Dixon, Jos., Crucible Co.:  
 Graphite Front End Finish, 73  
 Paint, 1023\*  
 Dominion Car & Foundry Co.:  
 Box Car, Steel Frame, 97\*  
 Door Hangers:  
 Allith Door Hangers, 652\*  
 Door:  
 Combination Door and Hanger, 1330\*  
 Double-Acting Door Check, 509\*  
 Forsyth Metal Doors, 1472\*  
 Laconia Sliding Door Fastener For Mail Cars, 756  
 Making Box Car Doors, 1355\*  
 Parallel Door Equipment, 715\*  
 Water-Tight Freight-Car Doors, 1054  
 Draft Gear (See also Shop Kinks):  
 American Steel Foundries Couplers, 1645\*  
 Cast Steel End Sill with Friction Buffer, 1526\*  
 Commonwealth Transom Draft Gear, 1521\*  
 Coupler and Draft Equipment, 1587\*  
 Forsyth Buffing Device, 1643\*  
 Friction Draft Gears and Buffers, 1681\*  
 Friction Striking Plate Buffer for Freight Equipment, 1728\*  
 Radial Draft Gear and Yoke, 1674\*  
 Revision of M. C. B. Standards, 1483†, 1578†  
 Simplex Passenger Coupler, 1759\*  
 Testing Machines, 1611†  
 Drain (See Maintenance of Way)  
 Drawbridge (See Bridge)  
 Drill (See Machine Tools; also Shop Kinks)  
 Driving Box (See Locomotive Driving Box; also Journal Box; also Bearings; also Shop Kinks):  
 Drop Pit:  
 Engine Drop Pit and Table, 264\*  
 Drop Tables (See Hoisting and Conveying)  
 Drouvé, G. Co.:  
 Lovell Window Operator, 691\*  
 Sash Operator, 641, 925\*  
 Dudgeon, Richard:  
 Car Inspector's Jack, 508\*  
 Duff Mfg. Co.:  
 Barrett Geared Ratchet Jack, 1191  
 Barrett Track Jack, 1241\*  
 Duntley Mfg. Co.:  
 Air Purifier, 1607\*, 1724\*  
 Coach Cleaning at Terminals, 1527\*, 1644\*  
 Electric Generator, 1680\*  
 Rockford Motor Cars, 584, 716, 1474\*  
 Rockford Track Weeder, 805  
 Duplex Metals Co.:  
 Copper Clad Steel Wire, 585\*

## E

Earnings (see also names of companies):  
 Bulletin of Revenues and Expenses of Railways in 1908 and 1909, 931†, 949\*  
 Express Companies' Earnings Excessive, 1270  
 Increased Cost of Living, 983\*  
 Railway Earnings in November, 78†  
 Railway Reports to I. C. C.; General News Section, Weekly  
 Summary of Railway Earnings, General News Section, Monthly  
 Surplus Available for Dividends, 365  
 Earth Pressure:  
 Theory of, 979†, 988\*, 1294†  
 Eastern Ry. of France:  
 Shop Kinks, 1146\*  
 Edison Mfg. Co.:  
 Exhibit, 714  
 Education (See also names of schools, colleges and universities; also Employee):  
 Apprentice Instruction, 539†, 870†, 871†, 1671, 1708  
 Engineering Graduate's Opportunity, 857†  
 Letters from an Old Railway Official to His Son, 1532†  
 Scholarships at Technical Schools, 1729†  
 School for Station Agents, 724, 1338\*  
 Union Pacific Bureau, 1419  
 University of Michigan, Railway Education at, 516†  
 Electrical Equipment:  
 N. Y. C. & H. R. Cars, 1344†, 1367\*  
 Electric Automatic Railroad Safety Signal Co.:  
 La Croix Cab Signal, 58†  
 La Croix Battery Chute, 924\*  
 Electric Controller & Mfg. Co.:  
 A. C. Controllers, 1399\*  
 Electric Generator:  
 Duntley Portable Electric Generator, 1680\*  
 Electric Hose & Rubber Co.:  
 Braided Rubber Hose, 1479\*, 1687  
 Electric Railways (See also Electrified Steam Railways):  
 British, 416  
 General Situation, 185  
 History, 743  
 Washington, Baltimore & Annapolis D. C. Installation, 418  
 Electric Traction (See Locomotive Electric)

Electrified Steam Railways:  
 Central Pacific, 101†  
 Electricity, 618, 647  
 Electric Traction, 829†  
 Single Phase in England, 420  
 Trunk Lines, Electrification of, 353  
 Elevated Railway:  
 C. & N. W., Grade Change of Oak Park Elevated, 737\*  
 Elliott, Irving S.:  
 Laconia Sliding Door Fastener for Mail Cars, 756  
 Embankment (See Maintenance of Way)  
 Employee (See also Education; also Officer):  
 Ambition, 487  
 Apprentices (see also Education), 869†, 1133†, 1170  
 Bonuses, Boston Elevated, 57  
 Casualties, 525\*  
 City for Steel Workers, 1330  
 Comparative Pay of Trainmasters and Trainmen, 1248†  
 Compensation of Workmen, 1159  
 Discipline, 869†  
 Brown's, on the M. K. & T., 840  
 Duties of Employer and Employee, 1054  
 Education:  
 Apprentice System, Grand Trunk, 5  
 Eaton Report on, 337†, 516†  
 Education and Politeness, 341†  
 Training to Obtain Efficiency, 339†, 366  
 Efficiency of Labor, 465†  
 Employers' Liability, Illinois Commission on, 840  
 Employers' Liability Law, 1054  
 First Aid to the Injured, 1359  
 Foreman and His Men, 1162  
 Free Relief for U. S. Steel Employees, 1052  
 Free Scholarships, McGill University, 1217  
 Hours-of-Service Law, 1271  
 How the Foreman Can Promote Shop Efficiency, 869†  
 Insurance, 1025†  
 Insurance and Benefit Funds, 450  
 Labor Unions:  
 Canadian Law to Facilitate Mediation, 1173  
 Labor Unions and Efficiency, 291†  
 Legislation of 1908 and 1909, 907  
 Negotiations with Labor Leaders, 1074†  
 Shop Efficiency and the Labor Union, 1762†  
 Threat of a Strike, 981†  
 Medals for Heroism, 840  
 Pensions:  
 American Railways, Pensions, 517  
 Free Relief for International Harvester Employees, 1102  
 Penna. R. R., 154  
 U. S. Steel Corp., 1188  
 Piece Work, 466†  
 Politeness, 321, 419, 1103  
 Premium System for Enginemen, 1690†  
 Seniority of Telegraphers on the Penna. R. R., 1272  
 Strike:  
 B. & O. Tugboats, 958  
 C. of N. J. Tugboats, 958  
 Coal Miners, 425, 535  
 Coal Miners in the Middle West, 766  
 D., L. & W. Tugboats, 958  
 Lehigh Valley Tugboats, 958  
 Mo. Pac., 1269  
 Organized Labor, 981†  
 Philadelphia Street Railway, 418  
 Tugboat Pilots, 1101  
 Switchmen in the Northwest, 57, 387†  
 28-Hour Law Applied to Terminal Railway, 915  
 Value of Care in Freight Yard Work, 827†  
 Wages:  
 Average Pay of Enginemen in N. Y., 907  
 Chicago Situation, 387†  
 Efficiency and Brotherhoods, 392†  
 Law Requiring Payment Twice a Month, 65  
 Switchmen at Chicago, 366  
 Wage Increase:  
 A. T. & S. F., 1394  
 Atlantic Coast Line, 958, 1175  
 Baltimore & Ohio, 365, 450., 958, 1053, 1175  
 B. & O. S. W., 1005  
 B. & M., 906, 1004, 1175, 1314  
 Boston, Revere Beach & Lynn, 958  
 Brotherhood of Locomotive Firemen and Enginemen West of Chicago, 959  
 Canadian Northern, 906  
 Canadian Pacific, 906, 1802  
 Central New England, 1271  
 Cent. of Ga., 1175  
 Central of N. J., 1103, 1314  
 Ches. & Ohio, 1053, 1074†  
 C., B. & Q., 906  
 Chi., Ind. & Sou., 1271  
 Chi., Ind. & Lou., 1175  
 C., R. I. & P., 1220  
 C., H. & D., 958, 1175  
 C., C. & St. L., 906, 1103, 1271  
 C. & S., 906

## Employee:

**Wage Increase (Continued):**  
 Delaware & Hudson, 433, 450, 958, 1052, 1103  
 D. L. & W., 958, 1021, 1052, 1175, 1314, 1378  
 D. & R. G., 906  
 Erie, 906, 958, 1103, 1219, 1314  
 Firemen, Chicago, 742  
 Firemen and Enginemen, 1426  
 Grand Trunk, 906  
 Gulf, Colo. & S. F., 1175  
 Higher Wages and Railway Rates, 933†  
 Indiana Harbor Belt, 906  
 Interborough Rapid Transit, 266  
 Kan. & Mich., 1175  
 Kansas City Southern, 1219  
 Lake Erie & Western, 1271  
 L. S. & M. S., 906, 1270  
 Lehigh Valley, 535, 906, 1053, 1103  
 Michigan Central, 1270  
 M. K. & T., 1219  
 Missouri Pacific, 1175, 1314  
 Negotiations with Labor Leaders, 1074†  
 New York Central, 958  
 N. Y. Central Lines West of Buffalo, 1103  
 N. Y. C. & H. R., 906, 1004, 1194†, 1220  
 N. Y. N. H. & H., 857†, 906, 958, 1005, 1053, 1175, 1219, 1271  
 N. & W., 922, 958, 1005, 1053  
 Penna. R. R., 906, 959, 1005, 1219  
 P. & R., 266, 922  
 P. & L. E., 1005, 1271  
 Principle in Settlement of Differences Over Wages, 1245†  
 Seaboard A. L., 1005, 1103, 1219  
 Sou. Pac., 1103, 1314  
 Southern Railway, 1103, 1314  
 Staten Island Rap. Trans., 1314  
 Switchmen at Chicago, 841, 842, 960  
 U. P., 906  
 U. S. Steel Corp., 1188  
 Wabash, 1005  
 Wabash-Pittsburgh Terminal, 1219  
 Western Maryland, 906  
 West of Chicago, 1269  
 Wheeling & L. E., 1103  
**Workmen's Compensation Act, 1025†**  
**Engine (See Locomotive)**  
**Engineering and Maint. of Way Assoc. (See Am. Ry. Eng. and Maint. of Way Assoc.)**  
**England (See Britain; also names; also subjects)**  
**Erie Railroad:**  
 Cab Signals, 924\*  
 Car Repair Department Shop, 1149\*  
 Industrial Department, 451, 538  
 Shop Kinks from the Meadville Shops, 47\*  
**Erie & Western Transportation Co.:**  
 New Passenger Steamer, Anchor Line, 1177  
**Exhibits (See names and subjects)**  
**Explosives, Transporting (See Car Service)**  
**Exports (See Imports and Exports)**  
**Exposition (See Names and Subjects)**  
**Express (See names of companies; also Earnings; also State Commission Rulings)**

## F

**Faessler, L. Mfg. Co.:**  
 Removable Driving Box Bearing, 1646  
**Fairbanks, Morse & Co.:**  
 Automatic Track Tank Valve, 1647\*  
 Barrett Geared Ratchet Jack, 1191  
 Charging Outfits for Storage Batteries, 1024\*  
 Coaling Stations, 1776\*  
 Gasoline Motor Inspection Car, 509\*  
 Gasoline Motor Section Car, 533\*, 1480\*  
 Gasoline Motor Passenger Car, 73, 1609\*  
 Motor Car Used in Zero Weather, 856\*  
 Producer Gas Plant, 1728\*  
 Jacks, 808\*, 1288  
 Rail Drill, 651\*  
 Section Hand Car, 1527\*  
 Sheffield Standpipe, 715\*  
 Water Supply for Locomotives, 1760\*  
**Fare (See Passenger Rates)**  
**Fast Ocean Runs:**  
 Mauretania, 840  
**Fast Trains and Runs:**  
 Michigan Central, 1378  
 New York Central, New York to Chicago, 151  
**Federal Signal Co.:**  
 Griffith Interlocking, 1418\*  
**Files:**  
 Division Superintendent's Office, 299\*  
**Finance:**  
 Bond Problem, 1122†  
 Increase of Dividends, 1291†  
 Railway Bonds in Europe, 1243†, 1333†  
**Fire:**  
 Fire Control on the Great Northern and Northern Pacific, 1218  
**Firebox (See Locomotive Firebox)**  
**Fire Door (See Door)**  
**Fittings (See Pipe)**  
**Flannery Bolt Co.:**  
 Factory, 1682\*  
**Flange (See Wheel)**  
**Flooring:**  
 Barrett Sub-Floor Oil, 215\*  
**Florida East Coast Ry.:**  
 Outlook, 1402†

**Forest Preservation (See Fire)**  
**Forgings (See Iron and Steel)**  
**Forsyth Bros. Co.:**  
 Brinkerhoff Car Side Construction, 1524\*  
 Buffing Device, 1643\*  
 Draft Gear and Yoke, 1674\*  
 Forsyth Metal Formations, 1726\*  
 Metal Doors, 1472\*  
**Foundry (See Shop)**  
**France:**  
 Employers' Liability Law, 1054  
 Pensions, 1054  
 Transportation and Traffic, 528  
**Freight (See also American Assoc. of Local Freight Agents Assoc.'s; also Car Service):**  
 Claims (See Claims)  
 Fast Freight Lines, 316  
 Rates (See Freight Rates)  
 Reporting, 745  
 Westbound Shipments, 269  
**Freight Rates (See also Freight Rate Reduction; also Freight Rate Increases; also Interstate Commerce Commission Rulings; also State Commission Rulings):**  
 Cost of Service and the Alton Case, 222†, 295†  
 Cost of Service in Rate Regulation, 388†  
 Distance Rates in Iowa, 1384  
 Expedited Rate, 512†  
 Grain and Flour, 1227  
 Injunction Against the Increase of Freight Rates, 1531†  
 Long and Short Haul Question, 1195†, 1260  
 Milling-in-Transit, 271, 291†, 370  
 Price of Eggs, Effect of Freight Rate on, 421  
 Quotation of Rates, 453  
 Reasonable Rates, 1196, 1256  
 Rejection of Tariff by I. C. C., 1111  
 Uniform Classification Committee, 1334  
 Western Classification Committee Meeting, 200  
 Western Situation, 817  
 Which Line Makes the Rate? 862, 1077†  
**Freight Rate Increases (See also Interstate Commerce Commission Rulings; also State Commission Rulings):**  
 Arrested Advances, 1402†, 1431, 1531†  
 C. M. & St. P., 1179  
 Coal and Coke from Pennsylvania, 538, 746  
 Coal in Illinois, 425, 1382  
 Coal Rates, 1058, 1317  
 Controversy Over Advances, 1292†, 1320  
 Dressed Beef, 292†, 421, 452, 843, 909, 1777†  
 Eastern Trunk Lines, 1428  
 Grand Trunk, 909  
 N. Y. C. & H. R., 1177  
 Oranges and Lemons, 1†  
 Proposed Advances in Freight Rates in the West, 963  
 Shippers' Protest, 1274  
 Sugar and Coffee, 1320  
 West of Chicago, 1179  
**Freight Rate Reduction (See also Interstate Commerce Commission Rulings; also State Commission Rulings):**  
 Atlantic Seaboard to Kansas, Oklahoma, Texas and Colorado, 909  
 Boston & Maine, 915  
 Cement from Philadelphia to Atlantic City, 1105  
 Coal, from Louisville, Colo., to Denver, 1105  
 Coffee, New York to Points West of the Mississippi River, 105  
 Differentials from New York, 157  
 El Paso, 1276  
 Iron and Steel from New York to Galveston, 1105  
 Nevada Northern R. R., 1382  
 Oregon Railroad & Navigation Co., 744  
 Portland and Points East of The Dalles, 541  
 Sugar, New York to Points West of the Mississippi River, 105  
 To Texas, 538  
 Wool to the Atlantic Seaboard, 1428  
**Freight Train Resistance (See also Locomotive Performance), 1763**  
**Freight Traffic (See Traffic)**  
**Freight Yards (See Yards and Terminals)**  
**Frog (See Rail)**  
**Fruit (See Refrigeration)**  
**Fuel (See also International Ry. Fuel Assoc.; also Coal)**  
 Commercial Gas as Fuel, 1163\*  
 Fuller, Charles E., 1762†, 1771  
**Furnace (See also Shop Kinks):**  
 Electric Hardening, 1722\*  
 Ferguson Shop Furnace, 1725\*  
 Gasoline Heating, 40\*

## G

**Gage (See also Machine Tools; also Shop Kinks):**  
 Gaco Automatic Gage Cock, 386\*  
 Gantry (See Hoisting and Conveying)  
 Gasoline Car (See Motor Car)  
**General Electric Co.:**  
 Alternating Current Grinding and Buffing Equipment, 554\*  
 Alternating Current Portable Drill, 508\*  
 Annual Report, 1123†, 1190

**General Electric Co. (Continued):**  
 Complaint About National Car Demurrage Rules, 1057  
 Electric Hardening Furnace, 1722\*  
 Motor Car, Gas Electric, 285\*  
 Oil Tempering Baths, 1758\*  
**General Railway Signal Co.:**  
 Alternating Current Signaling Patent Decision, 1395  
 Block Signals at Chicago Station, Chicago & North Western, 385  
 Germany (See also subjects and names of railways):  
 Freight Car Pool, 405  
 Transportation and Traffic, 95, 142  
**Gisholt Machine Co.:**  
 Boring Mills, 1398\*  
**Gold Car Heating & Lighting Co.:**  
 Positive Hose Coupler Lock, 435\*  
**Goubert, A. A.:**  
 Pile Driving Hammer, 216\*  
**Gould Coupler Co.:**  
 Cast Steel End Sill with Friction Buffer, 1526\*  
 Cast Steel Truck Side Frame, 1477\*  
 Friction Draft Gears and Buffers, 1681\*  
 Friction Striking Plate Buffer for Freight Equipment, 1728\*  
**Government Ownership:**  
 France, 528  
 National Railways of Mexico, 193\*  
**Government Regulation (See also Interstate Commerce Commission; also State Railway Commissions):**  
 Britain, Contrast with the United States, 124†  
 Cost of Service and the Alton Case, 391†  
 Cost of Service v. Value of Service in Rate Regulation, 388†  
 Cowards in Congress, 368  
 Interstate Commerce Commission and Expansion, 368  
 Issuance of Railway Securities, 124†  
 Methods Tried in America, 292†, 306  
 New Haven-Boston & Maine Merger, 293†  
 Radical Regulation, 385  
 Taft Recommendations, 80†, 124†  
 Grade Revision (See Construction, New)  
**Grade Separation:**  
 Joliet, Ill., 627\*  
**Grain (See Freight Rates; also Interstate Commerce Commission Rulings; also State Commission Rulings)**  
**Grand Trunk:**  
 Apprentice System, 5  
 Exhibit at Brussels, 1176  
 Free Scholarships, McGill University, 1217  
 In Canadian Politics, 1194†  
 Invasion of New England, 718†, 1121†  
**Grand Trunk Pacific:**  
 North Western Development, By, 84  
 Railway Situation in Canada, 98\*  
**Gray, G. A. Co.:**  
 Speed Variator, 74\*  
 Switch and Frog Planer, 74\*  
**Great Britain (See Britain; also names of railways)**  
**Great Northern:**  
 Comparison with Other Northwestern Roads, 368  
 Electric Locomotive on, 980†, 997, 1404†  
 Experiment Farms, 1057  
 Fire Control, 1218  
 Mallet Locomotives, 980†, 997, 1404†  
 Snow Sheds and Re-alignment, 1272  
 Train Despatching by Telephone, 195  
 Wreck at Cascade, 459, 536  
**Great Western Smelting & Refining Co.:**  
 Journal Bearing Metal, 1723  
**Greene, Tweed & Co.:**  
 Palmetto Packings, 1687\*  
**Grinding (See Machine Tools; also Shop Kinks)**  
**Gyroscope:**  
 Scherl Monorail Car, 104, 138\*

## H

**Hand Car (See Car)**  
**Hammer (See Shop Kinks)**  
**Harriman Lines (See also separate companies):**  
 Merger Hearing, 371, 423, 453, 539, 912  
 Unit System of Organization, 134  
**Hart Steel Co.:**  
 Screw Spike Tie Plates, 653\*  
**Headlight (See Lighting)**  
**Heating:**  
 Clark Drip Valve, 1190\*  
 Electric Boiler, 1650\*  
 Ward Car Heating System, 169\*  
**Heber, John:**  
 Rail Joint Tightener, 73\*  
**Heine Safety Boiler Co.:**  
 New Heine Boiler Shop, 17\*  
**Hemming Mfg. Co.:**  
 Insulating Material, 1288\*  
**Hepburn Law (See Interstate Commerce Law)**  
**High Spots in the Life of The Daily, 1468, 1515, 1637**  
**Highway Crossing (See Grade Crossing)**  
**Hilles & Jones:**  
 Boiler Shop Tools, 929\*  
 Guillotine Shear, 1647\*  
 High-Speed Punching Machine, 1687\*



## GENERAL INDEX—Continued.

[Illustrated articles are indicated thus\*; Editorials thus†; Letters to Editor thus‡.]

- Hilles & Jones (Continued):  
 Riveting and Punching Machine, 1480\*  
 Straightening Press, 1760\*  
 History (See subjects and names)  
 Hobart-Alifree Co.:  
 Clamp Derailer, 589\*  
 Valve Gear, 1575\*, 1674  
 Valve Gear, 1674  
 Hocking Valley:  
 Acquisition by Chesapeake & Ohio, 812\*†  
 Holsting and Conveying:  
 Cranes and Drop Tables for Erecting  
 Shops, 4†  
 Hoists and Jacks, 715\*  
 Revolving Arm Wall Crane, 927\*  
 Phosphate Rock Handling Plant, Sea-  
 board Air Line, 119\*  
 Travelling Crane, 927\*  
 Homestead Valve Mfg. Co.:  
 Valves, 1688\*  
 Hooley, Mr.:  
 Atlantic City, 1452  
 Ball Game, 1667  
 Convention Exhibits, 1770  
 Emsebee Association, 1508  
 Engineers, 580  
 Interchange Inspection, 1514  
 Mechanical Stokers, 1716  
 Railway Exhibit, 690  
 Signaling, 804  
 Dr. Sinclair, 1638  
 Superheaters and Lubrication, 1754  
 Hose:  
 Air-Brake Hose, 1475, 1520, 1601, 1647,  
 1685, 1728, 1760, 1776  
 Braided Rubber, 1479\*, 1687  
 Effect of Low Temperatures on, 1254\*  
 Hose Coupling and Nipple Machine, 1351\*  
 M. C. B. Hose Rule, 1453\*  
 Positive Coupler Lock, 435\*  
 Specifications for Air Signal Hose, 1253  
 Train Pipe and Connections for Steam  
 Heat, 1595\*  
 Hostility (See Public, The, Railways' Rela-  
 tions with)  
 Hours of Labor (See Employee)  
 Hudson & Manhattan:  
 All-Steel Baggage Cars for Subway Serv-  
 ice, 734\*  
 Increased Traffic, 105  
 Movement of Passengers on Platforms  
 and Stairways, 731  
 Hudson Bay Railway, 775  
 Hunt, C. W., Co.:  
 Phosphate Rock Handling Plant, S. A. I.,  
 119\*  
 Hutchins Car Roofing Co.:  
 All-Metal Inside Roof, 1646\*, 1685\*  
 Hydraulic (See Press)  
 Illinois Central:  
 Boat and Rail Telfer, 1417\*  
 Frauds in the Repairing of Cars, 1052,  
 1100, 1426, 1803  
 Illinois Manufacturers' Association:  
 Advance in Coal Rates, 1058, 1317  
 Impact Stresses:  
 Dynamic Measures, 1035\*  
 Independent Pneumatic Tool Co.:  
 Pneumatic Staybolt Riveter, 1399\*  
 India (See names)  
 Indianapolis Switch & Frog Co.:  
 Manganese Frogs, 580  
 R-N-R Frog, 641\*, 707  
 Industrial Companies:  
 Capitalization and Earnings, 1272  
 Inflammables (See Oil)  
 Injunction (See Legal Decisions)  
 Inspection Car (See Motor Car)  
 Insulation:  
 Linofelt, 652\*, 810\*  
 Lith Board, 585\*, 711\*, 805, 1477\*  
 Hemit, 1288\*  
 Insulating Material, 1288\*  
 Interborough Rapid Transit:  
 Revenue in 1909, 365  
 Interchange (See Car Service)  
 Interchangeable Case Die, 929\*  
 Intercolonial Railway:  
 Railway Situation in Canada, 98\*  
 Interlocking (See Signals, Interlocking)  
 International Correspondence Schools:  
 Apprentice Instruction, 1671  
 Books for Mechanics, 1465  
 Locomotive Running Instruction, 1724  
 International Harvester Co.:  
 Free Relief for Employees, 1102  
 International Ry. Fuel Assoc.:  
 Annual Meeting, 1299  
 International Railway General Foremen's  
 Association:  
 Annual Convention, 1161\*  
 Interstate Commerce Commission (See also  
 Interstate Commerce Law; also Ac-  
 counting; also Freight Rates):  
 Annual Report, 77†, 90, 91, 1332†  
 Balance Sheet Prescribed by, 1331, 1333†  
 Block Signal and Train Control Board  
 Report, 171†, 217\*  
 Bulletin of Revenues and Expenses of  
 Railways in 1908 and 1909, 931†, 949\*  
 Clark, E. E., on Work of, 58  
 Coal Mines Relation with Railways, 324  
 Form of Annual Report, 1331†  
 Interstate Commerce Commission (Con-  
 tinued):  
 Rate-Making Power, 1075†  
 Supreme Court's Attitude Toward the  
 I. C. C., 223†  
 Suspending Advances in Rates, 511†  
 Interstate Commerce Law (See also Freight  
 Rates), 1777†, 1778, 1785  
 Interstate Commerce Commission Rulings:  
 Administrative Rulings, 272, 963, 1011  
 Agent's Misstatement, 1277  
 Attempt to Obtain Low Intrastate Rate,  
 1061  
 Back Haul Charged for, 1277  
 Back Haul Rates at El Paso, 106  
 Cement Plaster Rate Reduced, 913  
 Charges for Demurrage, 1809  
 Coal Rate from Colorado Reduced, 426  
 Coal Rates to Georgia and Florida Ter-  
 ritory, 1277  
 Complainant Not Damaged, 1277  
 Compress Rates, 1228  
 Conference Rulings (See Administrative  
 Rulings)  
 Cotton Goods Rates, 1110  
 Cottonseed Oil Increased Rate Upheld,  
 203  
 Definition of Chains, 1563  
 Delay, Damages Due to, 106  
 Demurrage Charges at New Orleans, 425  
 Demurrage Charges in Ohio, 1060  
 Demurrage Charges on Coal Cars, 845  
 Des Moines, Discrimination Against, 914  
 Duty of Intermediate Carrier to Route  
 Correctly, 1809  
 Effect of State Rate on Interstate Rules,  
 1321  
 Elevation in Transit, 1278  
 Empty Beer Kegs, Rates on, 63  
 Express Companies' Competition with  
 U. S. M., 846  
 Failure to Post Supplement to Tariff,  
 1109  
 Failure to State Conditions of Low Rate,  
 1110  
 Florida Fruit Rates Unreasonable, 456  
 Flour Rate from Minneapolis to New  
 York Reduced, 913  
 Grain Rates to Astoria Reduced, 160  
 Henderson, Ky., Discrimination Against,  
 846  
 Icing Charges Reduced, 160  
 Informal Complaint Is Cause of Action,  
 913  
 Informal Rulings, 1011  
 Jackson, Tenn., Reduction in Cotton Rate  
 from, 203  
 Joint Rate in Existence, 746  
 Law of Limitations, 1321  
 Law to Require Monthly Reports, 1175  
 Limitation Clause, 1277  
 Loading and Unloading Rules, 1277  
 Loading Package Freight, 1227  
 Mexico, Rates to Points in, 541  
 Mexico, Through Rates to Points in, 63  
 Mileage Books, Use of, 913  
 Milling-In-Transit Abuses, 1078, 1193†,  
 1229, 1244†  
 Minimum Carload Weights, 845  
 Minimum Rate on Bulky Articles, 1061  
 Misrouting, 271  
 Missouri River Case, 1331†  
 Missouri River Rate Case, 1401†, 1433  
 Mistake in Routing, 1061  
 Montgomery, Discrimination Against, 458  
 New Rates to Shipments a Year Back,  
 1809  
 Oak Ties Rule Found Reasonable, 1009  
 Ocean Rate Not Filed, 1809  
 Orders for Cars Should Be in Writing,  
 160  
 Ottumwa, Reduction of Rates to, 203  
 Overcharges, Delay in Repayment of, 62  
 Pacific Coast Switching Cases, 1228  
 Package Freight Handling at Chicago, 540  
 Passenger Service Discrimination, 160  
 Plaster and Plaster Board Rates, 1277  
 Portland Gateway Case, 512†, 541  
 Portland Gateway Decision, 512†, 541  
 Powder, Lower Rates on, 458  
 Publishing Combination of Local Rates,  
 1563  
 Pullman Case, 979†, 980†, 987, 1315  
 Rates from the West to Chattanooga,  
 1320  
 Reduced Passenger Rates Limited to Or-  
 ganizations, 1058  
 Reduced Rates on Returned Shipments,  
 1057  
 Refund, 272  
 Rule 27-D Western Classification Unrea-  
 sonable, 1009  
 Sawdust Rate, 1809  
 Single Deck, Double-Deck Cars, 746  
 Station Facilities, Jurisdiction Over, 203  
 Street Railways of the District of Co-  
 lumbia, 203  
 Switching Charges at Utica, 1061  
 Ten-Car Rate, 106  
 Through Rate Less Than Sum of Locals,  
 65  
 Through Rate Rulings, 1228  
 Through Rate Division, 1061  
 Through Route Refused, 1563  
 Tie Rates Unreasonable, 1061  
 Interstate Commerce Commission Rulings  
 (Continued):  
 Tap Line Proportion, 1809  
 Transit Privilege, 1078, 1229, 1244†  
 Utah Demurrage Provisions, 845  
 Voluntary Rate Reduction by Carrier,  
 1563  
 Water Rate Not on File, 1060  
 Yellow Pine Lumber Rate Reduced, 1277  
 Iron and Steel (See also Rail; also Wheel;  
 also Welding; also Shops; also Shop  
 Kinks):  
 Composition and Action of Abrasives,  
 1241\*  
 Corrosion, 1028†  
 Pig Iron Production, 420  
 Pure Iron, 709\*, 807\*  
 Rustless Iron, 1756  
 Steel Industry, 766  
 Structures, 601\*, 618  
 Iszard-Warren Co.:  
 Railway Engineer's Instruments, 708  
 Italy:  
 Railways in Messina Earthquake, 735  
 Reformed Passenger Tariffs, 1130\*  
 J  
 Jack:  
 Car Inspector's Jack, 508\*  
 Barrett Geared Ratchet, 1191  
 Barrett Track Jack, 1241\*  
 Duff-Bethlehem Hydraulic Jack, 808\*  
 Geared Screw Jack, 808\*  
 Hydraulic and Screw Jacks, 1288\*  
 Jamaica:  
 Floods, 859†  
 Japan:  
 Trans-Emire Trunk Line, 416  
 Jefferson Union Co.:  
 Union, 1072\*  
 Johns-Manville Co., H. W.:  
 Conduit for Underground Cables, 1120\*  
 Joliet Ry. Supply Co.:  
 High Speed Brake Beam, 1574\*  
 Jones & Laughlin:  
 Woodlawn, the New City, 1330  
 Journal (See Bearings)  
 K  
 Kalamazoo Ry. Supply Co.:  
 Hand, Push and Velocipede Cars, 707  
 Wilcox Railway Gate, 810\*  
 Kanawha & Michigan (See Hocking Valley)  
 Kansas City, Mexico & Orient:  
 Traffic Report, 140\*  
 Kansas City Terminal Ry. Co.:  
 Union Passenger Station, 800\*  
 Kenly, W. K., Co.:  
 Anchor Tie Plate, 713\*  
 Car Replacer, 652\*  
 Pipe Line Carrier Base, 586\*  
 Kennicott Co.:  
 Ground Operated Softener, 712\*, 1522\*,  
 1727\*  
 Tanks for Grain Storage, 1757\*  
 Water Weigher, 583\*, 1775\*  
 Kensington & Eastern, 772\*  
 Kerite Insulated Wire & Cable Co.:  
 Insulated Cables, 682  
 Keuffel & Esser Co.:  
 Exhibit, 706  
 Keystone Nut Lock Co.:  
 Nut Locks, 1477\*  
 King Lawson Car Co.:  
 Dump Cars, 582  
 L  
 Labor (See Employee)  
 Lackawanna Bridge Co.:  
 Plant at Buffalo, N. Y., 216  
 Lackawanna Steel Co.:  
 Abbott Rail Joint Plate, 609\*  
 Lake Shore & Michigan Southern:  
 Annual Report, 721†, 759  
 Casting Driving Bearings in the Box, 27\*  
 Collinwood Shops' Shop Kinks, 503  
 Locomotives Out of Service February,  
 1910, 869†  
 Purchase of Toledo & Ohio Central, 812\*†  
 Right-Hand Running, 535  
 Lamp (See Lighting)  
 Lancashire & Yorkshire:  
 Accident at Townley, 1269  
 Land Grants:  
 Value of Union Pacific Land Grants,  
 1402†  
 Landis Tool Co.:  
 Plain Self-Contained Grinding Machine,  
 1683\*  
 Universal Grinding Machine, 1478\*  
 Landscape Gardening, 32  
 Lathe (See Machine Tools; also Shop Kinks)  
 Law:  
 Hours-of-Service, 1271  
 Laws Relating to Railways Engaged in  
 Interstate Commerce, 1777†  
 Texas 16-Hour Law, 1219  
 Legal Decisions (See also Interstate Com-  
 merce Commission Rulings; also Legis-  
 lation; also Passenger Rates; also  
 Freight Rates; also subjects)  
 Arkansas Law as to Furnishing Cars,  
 964

## Legal Decisions (Continued):

Bi-monthly Payment of Employees, 65  
 Charter Fee in Kansas, 161  
 Denver Rate Cases, 1886  
 Distribution of Coal Cars, 108, 175†, 274  
 Employees' Liability Act of Indiana, 1810  
 Enforcement of Orders of Indiana R. R. Commission, 1231  
 I. C. C. Power to Regulate Fare of Street Railways, 1810  
 Invalidation of bonds of the Wabash, 161  
 Mississippi Law Forbidding Suits in Federal Courts, 1012  
 Missouri River Rate Case, 1331, 1386, 1401, 1433  
 North Dakota Coal Rate Case, 746  
 Oklahoma 2 cent Fare Law, 326  
 Portland Gateway Case, 541  
 Texas Law of Routing Instructions, 915

## Legislation (See also Government Regulation; also Passenger Rates Reduction; also Freight Rates; also Freight Rate Reduction; also Employee):

Amendment of Long and Short Haul Clause, 1060  
 Bill to Amend the Act to Regulate Commerce, 717†, 811†, 857†, 1121†, 1217, 1289†  
 Court of Commerce, 717†, 811†, 857†, 1121†, 1217, 1289†  
 Grand Trunk in Canadian Politics, 1194†  
 Labor Legislation of 1908 and 1909, 907  
 Maryland Public Utilities Law, 1005, 1053  
 Massachusetts, 1531†  
 Ohio, Proposed Public Utility Legislation for, 1004, 1026†, 1100, 1174  
 Oklahoma Law of Consolidation of Transportation Companies, 1051  
 Railway Business Association on Proposed Federal Legislation, 1176  
 Railway Matters in Washington (Weekly)  
 Railway Regulation in Maryland, 958  
 State Control Over Streets, 511†  
 Taft at Chicago Traffic Club, 845  
 Lehigh & Hudson:  
 Collision at Woodruffs Gap, 321  
 Lehigh University:  
 New Engineering Laboratories, 1803  
 Lehigh Valley:  
 Inspecting Agents, 1380  
 Repairing Locomotives at the Sayre Shops, 1348  
 Lidgerwood Mfg. Co.  
 Incline Coal Car Haul Hoists, 692  
 Lighting:  
 Adlake Lantern, 653\*, 1727  
 Adlake Long-Time Burners, 714\*  
 Adlake Signal Lamps, 1758  
 Berth Lamps, 215\*  
 Car Lighting Equipment, 436  
 Illumination of a Locomotive Erecting Shop, 1676\*  
 Inverted Mantle Lamp, 1723  
 Locomotive Headlights, 1650†, 1074, 1038, 1098, 1175  
 Locomotive Headlights and Observation of Signals, 1038, 1098, 1175  
 Mantle Lantern Buoys, 1756  
 Mazdafor Illumination, 1288  
 Mica Lamp Chimneys, 1474  
 Switch and Semaphore Lamps, 582  
 Train Indicating Lamp, 586\*  
 Train Lighting, 1625\*

## Lima Locomotive &amp; Machine Co.:

Locomotives for the Oliver Iron Mining Co., 1679\*

## Linde Air Products Co.:

Exhibit, 1756

## Locomotive:

Ash Pan (See Locomotive Firebox)  
 Atlantic, for B. & O., 1255\*  
 Bearings (See Bearings)  
 British Locomotive Practice, 340†  
 C. P. R. Shopping a Locomotive, 58\*  
 Compounding and Superheating, 1403†  
 Compound, Tractive Power of, 179\*  
 Consolidation, C. G. W., 313\*  
 Consolidation, C. M. & St. P., 1157\*  
 Crawford Mechanical Stoker, 1411\*  
 Decapod, E. P. & S. W., 1001\*  
 Development, 1651†  
 Eight-Wheel with Superheaters for the Western of Havana, 403\*  
 First Locomotive, 103  
 Headlights (See Lighting)  
 History of the Baldwin Locomotive Works, 147\*  
 Increases in Motive Power Expenses Due to Severe Weather, 1206  
 Industrial, 500\*  
 Kindling Fires, 1300  
 Lateral Motion Gage, 238\*  
 Location of Point of Water Delivery, 1168  
 Locomotive and Shop Operating Costs, 1767\*  
 Locomotive Frame Construction, 1761†  
 Locomotive Rebuilt in 24 Hours, 1362  
 Mallet, Boston & Albany, 889\*  
 Mallet, Cab to the Front, 1025†  
 Mallet Compound for Columbia National, 357\*  
 Mallet Compound Limitations, 1027†, 1034\*

## Locomotive (Continued):

Mallet Locomotive Tender for A., T. & S. P., 131\*  
 Mallet, D. & H., 1303\*  
 Mallet, for the Burlington, 1213\*  
 Mallet, for the Southern Pacific, 1027†, 1034\*  
 Mallet in Service, 513†  
 Mallet, Speed Limit of, 870†, 1077†, 1249†, 1294\*†  
 Metallic Piston Packing Rings, 241\*  
 Mine Locomotive, Oliver Iron Mining Co., 1679\*  
 Mogul for the Tientsin-Pukow Railway, 444\*  
 Oil-Burning Locomotives on C. & N. W., 1052  
 Ordered in 1909, 102  
 Pacific Locomotive for the St. Paul, 1639\*  
 Progress in Construction, 1001\*  
 Repairing Locomotives at the Sayre Shops of the Lehigh Valley, 1348  
 Repairs Without Removing Drivers, 1134†  
 Shop, 500\*  
 Simple, Tractive Power of, 179\*  
 Steel in Locomotive Construction, 891  
 Superheater, 1403†, 1730†, 1734, 1737  
 Ten-Wheel, C. G. W., 313\*  
 Ten-Wheel, Paris, Lyons & Med., 23\*  
 Tires (See Tires)  
 Twelve-Wheel, Paris, Lyons & Med., 23\*  
 232,000 Miles Without Shopping, 1715\*  
 Valve (See Valve)  
 Vaucain Compound Running Gear, 320\*  
 Locomotive Boiler (See also Water Purifying; also Machine Tools; also Shop Kinks):  
 Applying and Maintaining Tubes, Penn. Standards, 22\*  
 Boiler Practice in Foreign Countries, 180  
 Expansion of, 1289†  
 Expansion of Sheets, 1311\*  
 Federal Boiler Inspection, 1533†  
 Finishing Staybolts and Straight and Taper Bolts for Locomotives, 1360\*  
 Hot Water Washout and Filling System, 1164  
 Inspection of Locomotive Boilers, 1765\*  
 Oxy-Acetylene Process for Welding, 1531†, 1535\*  
 Steel Boiler Tubes, Penn. Specifications for, 221†, 263  
 Locomotive Driving Box (See also Shop Kinks):  
 Improvements in Driving Box and Frame Construction, 1730†, 1746  
 Removable Bearing, 1365\*  
 Locomotive, Electric:  
 Baltimore & Ohio, 742  
 Electric Traction, 829†  
 Great Northern, 980†, 997, 1404†  
 New York Central Maintenance of Equipment, 1344†, 1367\*  
 Reid-Ramsey Steam Turbine, 818  
 Locomotive Firebox (See also Machine Tools):  
 Mechanical Stoker, Penn. Lines West, 1411\*, 1689†, 1695\*  
 Self-Cleaning Ash Pans, 1163  
 Self-Dumping Ash Pans, 1707, 1729†  
 Wide Firebox, 1167  
 Locomotive, Freight:  
 Boston & Albany Mallet, 889\*  
 C., B. & O. Mallet, 1213\*  
 Chicago Great Western Consolidation, 313\*  
 C., M. & St. P. Consolidation, 1157\*  
 Columbia National, Mallet Compound, 357\*  
 D. & H. Mallet, 1303\*  
 El Paso & S. W., Decapod, 1001\*  
 New York Central Lines, Mallet, 889\*  
 Southern Pacific, Mallet Locomotives, 1027†, 1034\*  
 Tientsin-Pukow Ry., Mogul, 444\*  
 Locomotive, Passenger:  
 B. & O., 1255\*  
 Chicago Great Western, Ten-Wheel, 313\*  
 C., M. & St. P. Pacific Type, 1639\*  
 Paris, Lyons and Mediterranean Express, 23\*  
 Western of Havana, Eight-Wheel, with Superheater, 403\*  
 Locomotive Performance (See also Fast Trains and Runs):  
 Comparative Tests of Mallet and Consolidation, 91\*  
 Efficiency in Fuel Consumption, 1299  
 Engine Reports on the N. Y., N. H. & H., 834\*†  
 Locomotives Out of Service February, 1910, 869†  
 Mallet Compound Locomotive Limitations, 1027†, 1034\*  
 Mallet Locomotive in Service, 513†  
 Mallet, on the Great Northern, 980†, 997, 1404†  
 Mileage Chart, 50\*  
 Record of Miles Run Per Engine Failure, 869†  
 Speed of Passenger Locomotives, 831\*, 172†, 175†, 227†, 228†, 295†, 343†, 391†, 1405†  
 Speed Limits of Mallet Locomotives, 870†, 1077†, 1249†, 1294\*†  
 Tractive Power, 310\*  
 Tractive Power of Simple and Compound Locomotives, 179\*  
 Train Resistance on the Virginian Railway, 937†

## Lock (See Hose)

## Lock Nut:

Boss Nut Lock, 1441\*

## Long &amp; Allstatter:

Tools for Steel Passenger Car Shops at Pullman, 287\*

## Long Island Railroad:

Offices in Manhattan, 1218

## Lorain Steel Co.:

Shops, 710

## Lubrication:

Detroit Lubricator Company's Exhibit, 1684\*

Randall Graphite Sheet Lubricator, 436\*

Selection of Lubricants, 932†

With Highly Superheated Steam, 1649†

Wheel Flange and Rail, 508\*, 1190

## Lumber (See Ties and Timber)

## Lunch Basket:

Restaurant at the Grand Central Station, 979†, 1051, 1100

## M

## McConway &amp; Torley Co.:

Truck Designs, 1671

## McDonald Co.:

Reinforced Concrete Tie, 806

Machine Tools (See also Maintenance of

Way; also Shops; also Bearing; also

Gage; also Shop Kinks):

Alternating Current Portable, 508\*

Bearings for Machine Tools, Improved, 223†

Boiler Shop Tools, 929\*

Buck Expansion Boring Bar, 926\*

Car Wheel Press, 300-Ton Double, 287\*

Cutting-Off Machine, 76\*

Cylinder Boring Bar, 1190\*

D., L. & W. Tool Layout, Scranton Shops, 221†, 260\*

Drill Press, 75\*

Exhibit, 1717

Finishing Staybolts and Straight and

Taper Bolts for Locomotives, 1360\*

Forge Planer, 75\*

Gisholt Boring Mills, 1398\*

Guillotine Shear, 1647\*

Helme Boiler Plant, 17\*

High Duty Drilling Machines, 1135†

High-Speed Punching Machine, 1687\*

Landis Universal Grinding Machine, 1478\*

Magnetic Chucks, 1400\*

Pipe Bender, 1398\*

Pipe Machine, 510\*

Plain Self-Contained Grinding Machine, 1683\*

Planer and Matcher, 286\*

Planer, Matcher and Molder, 289\*

Planer, Switch and Frog, 74\*

Pneumatic Staybolt Riveter, 1399\*

Queen City 24-Inch Crank Shaper, 930\*

Riveting and Punching Machine, 1480\*

Saw Sharpener, Automatic, 76\*

South American Requirements, 341†

Speed Variator, 74\*

Spring Band Stripping Press, 231\*

Stockbridge 24-Inch Shaper, 926\*

Steever Pipe Threading Machine, 1686\*

Straightening Press, 1760\*

Tire Mills, 510\*

Tools for Steel Passenger Car Shops at

Pullman, 287\*

Tools in Austro-Hungary, 735

Universal Triple Geared Radial Drill, 1397\*

## Madeira-Monroe Ry., 32

## Magnets:

Mechanical Contrivances in Handling Material, 1263

## Mail:

Burr Mail Delivery Apparatus, 908, 1379

Postmaster General's Annual Report, 59

Quadrennial Weighing, 153

Railway Mail Pay, 396

## Maine:

Double Track in, 822\*, 866

## Maintenance of Equipment:

Maintenance Cards, 732

Maintenance of Way (See also Rail; also Rail

Joint; also Ties and Timber):

Anchor Bottom Tie Plates, 632, 809\*, 713\*

Anti-Rail Creepers, 589\*

Appliance Exhibitors of the A. R. E. &

M. of W. Assoc., 431

Ballast, 679, 701, 765†

Cast Iron Chairs, 341†

Committee on Buildings of Am. Ry. Eng.

& M. of W. Assoc., 656†

Cost of Renewals of Permanent Way of

British Railways, 576\*

Curve Easements, Present Practice, 1540

Design a Section House, 765†

Economics of Location, 655†, 657†, 662\*, 673

Efficiency Devices in Track Work, 597†

Gasoline Motor Section Car, 583\*

Improvements in Section Work, 556†, 557

Metal Ties, 341†

Narrow Gage Cars on Railway Construction, 1542\*

New Ideas, 77†

Rail Drill, 651\*

Rail Spreading, 338†, 342†

Records and Accounts, 785\*



## GENERAL INDEX—Continued.

[Illustrated articles are indicated thus\*; Editorials thus†; Letters to Editor thus‡.]

**Maintenance of Way (Continued):**  
 Kenning Compound Curves, 1542\*  
 Report of Committee on Buildings, 776\*  
 Rest House for Section Men, 1126\*  
 Roadway, 781\*  
 Rockford Motor Cars, 584, 716  
 Screw Tie Plates, 584\*, 653\*  
 Section Car (See Motor Car)  
 Signs, Fences and Crossings, 794\*  
 Snow Removal by Steam Heat, 1199  
 Snow Sheds and Re-alignment on the G. N., 1272  
 Standard Cross Sections, 594†  
 Track-Laying Machine Results, 1339  
 Velocipede (See Motor Car)  
 Water Service, 787\*  
 Widening Gage of Tracks at Curves, 1732  
**Maintenance of Way Association (See Am. Ry. Engineering and Maint. of Way Assoc.)**  
**Manchuria:**  
 Chinese Control of Railways, 77†  
**Manufacturers' Ry. of St. Louis:**  
 Rates, 452  
 Divisions of Through Rates, 538  
 Market Gardening by Railways, 339†  
 Masonry (See Bridge; also Concrete)  
 Martin, J. C.:  
 Wheel Flange Lubricator, 508\*, 1190  
**Massachusetts:**  
 Two, Three and Four-Track Railways in, 955  
**Massachusetts Institute of Technology:**  
 Higher Degrees, 1176  
**Massachusetts Mohair Plush Co.:**  
 Car Seat Covering, 1481  
 Seat Covering, 1648  
**Master Blacksmiths (See Internat. Ry. M. B. Assoc.)**  
**Master Boiler Makers' Assoc.:**  
 Annual Convention, 1375  
**Master Car Builders' Association, 507**  
 Attendance, 1577†  
 Convention Twenty Years Ago, 1443†  
 1729†, 1769  
 Exhibitors, 1456\*  
 Government Control of Safety Appliances, 81†, 171†, 176†  
 Interest in the Proceedings, 1611†  
 President Clark's Address, 1483†, 1485\*, 1581  
 Proceedings, 1485\*, 1581  
 Railway Representatives' Expenses, 1611†  
 Revision of Standards, 1488\*  
 Younger Men in Attendance at the Convention, 1611†  
**Mechanical Associations:**  
 Freedom of Speech, 1778†  
**Mechanical Engineer:**  
 Importance of, 1†  
**Messina Earthquake:**  
 Railways in, 735  
**Mexico:**  
 Condition in Southern Mexico, 1271  
**Michigan Central:**  
 Annual Report, 722†, 761  
**Mileage:**  
 Railways of the World, 1778†  
 Miller, Darius, 242\*  
**Milling-in-Transit:**  
 Abuses, 1078, 1193†, 1229, 1244†  
**Mills:**  
 Main Mills of F. W. Bird & Son, 856\*  
**Missouri, Kansas & Texas:**  
 Brown's Discipline on, 840  
 Operating Rate in November, 155  
 Passenger Rate in Oklahoma Raiser, 452  
**Missouri, Kansas & Texas Terminal:**  
 Maximum Rate Fixed, 415  
**Missouri Pacific:**  
 Steel Postal Car, 1640\*  
 Unprofitable Passenger Business, 426  
**Missouri River Rate Case (See also I. C. C. Rulings):**  
 Supreme Court Decision, 1401†, 1433  
**Mixer:**  
 Austin Cube Mixer, 708\*  
**Monorail (See Gyroscopce)**  
**Morden Frog & Crossing Co.:**  
 Guard Rail Clamps, 809\*  
 G. L. M. Switch Stand, 691\*  
 Manganese Steel Frog, 641\*  
 Union Switch Stand, 805  
**Morris, Ray, 1082\***  
**Motor (See Locomotive, Electric; also Car)**  
**Motor Car:**  
 Adams Motor Inspection Car, 217\*  
 Fairbanks-Morse, 73  
 Gas Electric, Southern Railway, 285\*  
 Gasoline Passenger Car, 1609\*  
 Inspection Car, 509\*, 649\*, 1023\*  
 Light, the Four-Wheel Model, 581\*, 712\*  
 Local Passenger Traffic, 937†  
 McKee, Hocking-Sunday Creek Traction Co., 1100  
 Motor Car Used in Zero Weather, 856\*  
 Rockford Inspection Car, 584, 716  
 Rockford Section Motor Car, 1474\*  
 Section Car, 583\*, 1480\*  
**Mudge, Burton W., & Co.:**  
 Adams Motor Inspection Car, 217\*  
 Gasoline Ventilators, 1642, 1757\*, 1774  
 Light Motor Car, 581\*, 712\*  
 Mail Crane, 653\*

**Municipal Bridge and Terminals Commission of St. Louis, 741**  
**Municipal Engineering & Contracting Co.:**  
 Austin Mixer, 708\*

## N

**Nathan Manufacturing Co.:**  
 Exhibit, 1524  
**National Industrial Traffic League:**  
 Abuses into Distribution of Tariffs, 1058  
**National Lock Washer Co.:**  
 Curtain Fixtures, 1520  
 Lock Washer, 1476, 1609, 1674  
 Spring Parallel Guides, 1646  
**National Machinery Co.:**  
 Interchangeable Case Die, 929\*  
**National Malleable Castings Co.:**  
 Malleable Iron Track Braces, 581  
**National Railways of Mexico:**  
 Conductors and Engineers' Demands, 265  
 Government Control, 193\*  
**National Transcontinental (See Grand Trunk Pacific)**  
**National Tube Co.:**  
 Kewanee Air Pump Union, 1681\*  
 Kewanee Pipe Unions, 1400\*  
 Kewanee Union Ells and Tees, 1602\*  
**Never Slip Safety Clamp Co.:**  
 Clamps, 1192\*  
**New Hampshire:**  
 Double Track in, 864\*  
**New Jersey:**  
 Multiple Track in, 1200\*  
 New Railway Law, 840, 959  
**New Orleans Great Northern:**  
 Locomotive & Car Repair Shops, 50\*  
**New York:**  
 Multiple Track Railways in New York State, 1126\*  
**New York Central & Hudson River:**  
 Annual Report, 719\*, 757  
 Care and Handling of Electrical Equipment, 1344†, 1367\*  
 Collision at Croton, 254, 294†, 321  
 Dining Car, 447\*  
 Equipment Trust Certificates, 1231  
 Rights in New York City Streets, 511†  
 Telephone Equipment on Twentieth Century Limited, 386\*  
**New York Central Lines (See also separate companies):**  
 Mallet Locomotive, 889\*  
**New York City Railways:**  
 Earnings and Expenses, 424  
**New York, New Haven & Hartford:**  
 Concrete Viaduct at New Haven, 394\*  
 Dispute with Adams Express, 57  
 Engine Reports, 834\*†  
 Harlem River Branch Improvements, 186\*, 257\*  
 Massachusetts Legislation, 1531†  
 Mechanical Organization, 465†, 469\*, 834\*  
 Merger with Boston & Maine, 293†  
 Passenger Rate Increase, 1026†  
 Relations with Massachusetts, 338†, 356  
 Tunnel, 536  
 Wage Increase, 857†  
**New York, Ontario & Western:**  
 Westbound Freight Shipments, 269  
**New York Public Service Commission:**  
 Criticism of, 743  
**New York Subway (See Interborough Rapid Transit; also Hudson & Manhattan)**  
 Niagara, St. Catharines & Toronto:  
 Bridge at Thorold, Ont., 122\*  
**Night Letter Telegrams:**  
 Increase in, 1379  
**Niles-Bement-Pond Co.:**  
 Car Wheel Press, 287\*  
 Cranes, 927\*  
 Locomotive Cylinder Boring Machine, 290\*  
**Norfolk & Southern:**  
 Albemarle Sound Bridge, 198, 339\*  
 Charging Outfits for Storage Batteries, 1024\*  
 Wheel Foundry, 927\*  
**Northern Central (See Penna. R. R.)**  
**Northern Pacific:**  
 Automatic Block Signals, 435  
 Comparison with Other Northwestern Roads, 368  
 Fire Control, 1218  
 Portland Gateway Case, 512†, 541  
**Norton Co.:**  
 Composition and Action of Abrasives, 1241\*  
**Nut Lock:**  
 Bartley Nut and Bolt Fastener, 1603  
 F. B. C. Arch Bar, 1477\*  
 Lock Washer, 1476, 1609, 1674  
**Nutter & Barnes Co.:**  
 Cutting-Off Machine and Automatic Saw Sharpener, 76\*

## O

**Officer (See also Organization; also Public, The, Railways, Relations with; also Employee):**  
 Comparative Pay of Trainmasters and Trainmen, 1248†

**Officer (Continued):**  
 Efficiency Records, 931†  
 Letters from An Old Railway Official to His Son, 1532†  
 Manager, Problems of, 465†  
 Mechanical Engineer, 1†, 2†  
 Moral Standards, 267  
**Officers (Continued):**  
 Superintendent's Chief Clerk, 299\*  
 Trainmaster, 835, 866, 941  
 Traveling Engineer, Qualifications of, 890  
**Oil (See also Lubrication; also Locomotive; also Shop Kinks):**  
 Storage Systems, 1480\*, 1672  
 Tanks for Preparing Journal Box Packing, 1357\*  
**Oil Tempering Baths, 1758\***  
**Oklahoma:**  
 Law of Consolidation of Transportation Companies, 1051  
**Okonite Co.:**  
 Exhibit, 706  
**Oregon & Washington:**  
 Station at Seattle, 148\*  
**Oregon Trunk Line:**  
 Competitive Railway Building in the Des Chutes River Canyon, 767\*  
**Organization (See also Officer):**  
 American Ry. Organization in England, 155  
 Mine System (See Unit System)  
 Mechanical Organization on the New Haven, 465†, 469\*, 834\*  
 Motive Power Department, C., B. & Q., 1136\*  
 Needs of American Railway Organizations, 389†  
 Organization and System, 1164  
 Principles Underlying Efficiency Work, 1133†, 1143\*, 1248†  
 Rules and Organization, 614, 647  
 Unit System, 134, 181  
 Unit System on Central South African Railways, 364  
**Osborn, B. M., Co.:**  
 Boss Nut Lock, 1441\*  
**Otto Gas Engine Works:**  
 Proportioning Machine, 586\*  
**Outlook for 1910, 123†**  
**Ownership (See Finance; also Government Ownership)**  
**Oxy-Acetylene Blowpipe:**  
 Tentative Rules for Regulation, 1315

## P

**Pacific Fruit Express Co.:**  
 Ice-Making Plant at Las Vegas, Nev., 585\*  
**Pacific Timber Preserving Co.:**  
 Tie-Treating Process, 582  
**Packing (See Bearing)**  
**Paint (See also Shop Kinks):**  
 Graphite Front End Finish, 73  
 Ripolin Enamel Paint, 714  
 Silica-Graphite Paint and Acid, 1022\*  
**Panics:**  
 Post-Mortem Diagnosis, 415  
**Passenger Business:**  
 Local, 937†  
**Passenger Rates (See also Interstate Commerce Commission Rulings; also State Commission Rulings; also Passenger Rate Increases; also Passenger Rate Reduction):**  
 Electric Railway Situation, 155  
 Reformed Passenger Tariffs in Italy, 1130\*  
 Two-Cent Fare Enjoined in Oklahoma, 326  
 Two-Cent Fare Law, 541  
 Uniform Practice, Rates for Conventions, 962  
**Passenger Rate Increase (See also Interstate Commerce Commission Rulings; also State Commission Rulings):**  
 Boston & Albany, 1177  
 B. & M., 1105, 1329  
 Central of N. J., 1317  
 Chicago, Peoria & St. Louis, 426  
 D., L. & W., 1384  
 Erie Railroad, 1274, 1384  
 Lehigh Valley, 1384  
 Long Island Railroad, 1274  
 Missouri, Kansas & Texas in Oklahoma, 452  
 New York and Boston, 1177  
 N. Y. C. & H. R., 1227, 1384  
 N. Y., N. H. & H., 1026†, 1227, 1384  
 New York State Public Service Law Amendment, 1224  
 Penna. Railroad, 1394, 1428  
 Vagaries, 1289†  
**Passenger Rate Reduction (See also Interstate Commerce Commission Rulings; also State Commission Rulings):**  
 Central Passenger Association Lines, 1057  
 New York Central & Hudson River, 744  
**Passenger Traffic (See also Traffic):**  
 Increase on Hudson & Manhattan, 105  
**Panama Railroad:**  
 Relocation, 303\*  
 Railways Not Opposed to Canal, 841



Pan-American Railway:  
Condition in Southern Mexico, 1271  
Pay (See Employee)  
Pease, C. F., Co.:  
Blue and White Print Plant, 588  
**Pennsylvania:**  
Multiple Track Railways in Pennsylvania, 1794\*  
**Pennsylvania Railroad:**  
Anchor Line, New Passenger Steamer, 1177  
Annual Report, 514\*  
Cabs in Philadelphia, 535  
East River Tunnel Opening Delay, 449  
Forest and Timber Preservation, 450  
Industrial Department Work, 843  
New York Tunnel Extension, 19\*  
Pension Department, 1003  
Pensions, Proposed Modification of, 154  
Pullman Steel Sleeping Car, 1084\*  
Reports, Two Years Ending December 31, 1332\*  
Rest House for Section Men, 1126\*  
Seniority of Telegraphers, 1272  
Signal Instruction Cars, 1003  
Specifications for Air Signal Hose, 1253  
Standards of Applying and Maintaining Tubes in Locomotive Boilers, 22\*  
Station at Baltimore, 947\*  
Station at Newark, N. J., 1557\*  
Station at New York, 998\*  
Steel Boiler Tube Specifications, 221\*, 263  
Steel Passenger Cars, 367\*  
Stresses Developed by Collisions of Freight Cars, 1035\*  
Surprise Tests, 1269  
Telegraph School, 151  
**Penn. Lines West of Pittsburgh:**  
Mechanical Stoker, 1411\*, 1689\*, 1695  
**Pennsylvania Steel Co.:**  
Frog and Switch Departments, 589\*  
Pensions (See Employee)  
Per Diem (See Car Service)  
Permanent Way (See Maintenance of Way)  
Phosphate Rock Handling (See Conveyor)  
Piece Work (See Employee)  
Pile Driving Hammer:  
A. A. Goubert, 216\*  
**Pilliod Co.:**  
Baker-Pilliod Valve Gear, 1608  
**Pipe (See also Hose):**  
Corrugated Culvert Pipe, 633\*  
Erosion of a Gasket Union, 1484\*  
Jefferson Union, 1072\*  
Kewanee Air Pump Union, 1681\*  
Kewanee Pipe Union Test, 1400\*  
Kewanee Union Ells and Tees, 1602\*  
Lock Joint Cast Iron Culvert Pipe, 706\*  
Pipe Bending Machine, 1398\*, 1526\*  
Pipe Threading Machine, 1686\*  
**Pit (See Shops)**  
**Pittsburg & Lake Erie:**  
Traffic Agreement with the Western Maryland, 157, 173\*  
**Pittsburg, Cincinnati, Chicago, & St. Louis:**  
Annual Report, 1292\*  
**Pittsburgh Gage & Supply Co.:**  
Gaco Automatic Gage Cock, 386\*  
**Planer (See Machine Tools; also Shop Kinks)**  
**Planet Co.:**  
Mills Door, 1330\*  
**Plant (See Shops)**  
**Platform (See Terminal)**  
**Pneumatic Tools (See Machine Tools; also Shop Kinks)**  
Portland Gateway Case, 512\*, 541  
Post, D. & A., Mold Co.:  
Concrete Fence Posts, 707\*, 712  
**Postal Telegraph Co.:**  
History, 266  
Sale of Am. Tel. & Tel. Stock, 365  
**Power Station:**  
D. L. & W. at Scranton, 7\*  
Price (See Business Situation)  
**Producer Gas Plants:**  
Fuel Consumption, 1728\*  
Proportioning Machine, Davidson, 586\*  
Prosperity (See Business Situation)  
**Pole (See Telegraph)**  
**Public, The Railways Relation with:**  
British General Election, 124\*  
Farmer, Railway and Middleman, 1274  
Initiating the Mechanical Associations, 1778\*  
Petty Annoyances to Travelers, 931\*  
Railways and the Nation, 1532\*  
Railways as Citizens, 634  
Railways as Consumers, 387\*  
Return of Fares, 1073\*  
The Railway as Press Agent, 855\*  
"Taffy," 1315  
**Pullman Co.:**  
Rates Reduced, 979\*, 980\*, 987, 1315  
**Purdue University:**  
Vauclain Compound Running Gear, 320\*

## Q

Q. & C.:  
Portable Rail Saw, 807\*  
Rail Joint, 649\*  
Samson Rail Bender, 712\*  
Anti-Creepers, 589\*  
**Queen City Machine Tool Co.:**  
24-Inch Queen City Shaper, 930\*

## R

**Rail (See also Maintenance of Way):**  
Annual Capacity for the Production, 593\*, 606  
Anti-Rail Creepers, 589\*  
Anvil Face Frog, 805\*  
Car Replacer, 583\*  
Clamp Derailer, 589\*  
Committee, A. E. & M. of W. Assoc., 594\*, 655\*  
Guard Rail Clamps, 713\*, 809\*  
Limit Gages for Rail and Frog Wear, 657\*  
Manganese Frogs, 580  
Manganese Hard Center Frog, 588\*  
Manganese Steel Frog, 641\*  
Manganese Steel Switch Points, 806  
Modern Rail Manufacture, 658\*  
Open Hearth, Investigation of Defective, 523\*  
Open-Hearth Rail and the New Sections, 595\*, 621  
P. & M. Rail Anchor, 713\*  
R-N-R Frog, 641\*, 707  
Rail Brace, 652\*  
Rail Saw, Portable, 807\*  
Samson Rail Bender, 712\*  
Wheel and Rail Committee, Am. Ry. Assoc., 594\*, 655\*  
York Rail Section, 291\*, 296\*  
**Rail Drills, 651\***  
**Rail Joint (See also Maintenance of Way):**  
Abbott Rail Joint Plate, 609\*  
Bonzano Joint, 649\*  
Bossert One-Piece Insulated Rail Joint, 649  
Joint Tightener, 73\*-  
Oil Treated Rail Joints, 650\*  
100 Per-Cent. Rail Joint, 650\*  
Supported Joint, 291\*, 296\*  
Wolfe Automatic Lock, 809\*  
**Railway Appliances Exhibit, 579**  
**Railway Business Association:**  
Before Ohio Senate Committee, 1053  
Ohio, Proposed Public Utility Legislation for, 1004, 1026\*, 1100, 1174  
Proposed Federal Legislation, 1176  
**Railway Commissions (See State Railway Commissions)**  
**Railway Fuel Association:**  
Annual Meeting, 1331\*, 1404\*  
**Railway Materials Co.:**  
Ferguson Shop Furnace, 1725\*  
Tire Furnace, 1684\*  
**Railway Men, 1444\***  
**Railways (See Public, The Railways' Relation with):**  
**Railway Signal Association:**  
Annual Convention, 555\*  
Annual Meeting Proceedings, 572  
June Meeting, 1544  
Neighborhood Meetings, 555\*  
Uniform Plan of Signaling, 555\*  
**Railway Specialty and Supply Co.:**  
P. & M. Rail Anchor, 713\*  
**Railway Storekeepers' Association:**  
Annual Meeting, 1261  
Efficiency in Supply Departments, 1244  
**Railway Supply Manufacturers' Association,**  
1448\*  
Annual Meeting, 1661\*  
Constitution and By-Laws, 1649\*  
**Railways of the World, 1778\***  
**Rain (See Maintenance of Way):**  
**Ramapo Iron Works:**  
Guard Rail Clamps, 713\*  
Manganese Hard Center Frog, 588\*  
Parallel Throw Automatic Switch Stand, 650\*  
**Rapp, John W., Co.:**  
Incorporation, 215  
**Rates:**  
Higher Wages and Railway Rates, 933\*  
Rate-Making Power of the Interstate Commerce Commission, 1075\*  
Tennessee Central Through Rates, 326  
**Rate Increase:**  
Interstate Commerce Commission Power to Raise Rates, 338\*  
I. C. C., Suspending Advances in Rates, 511\*  
**Rate Law (See Interstate Commerce Law)**  
**Real Estate:**  
Alleged Chic. & West. Ind. Frauds, 319  
Rebates (See Freight Rates)  
Refrigeration (See also Car):  
Pre-Cooling Plant of the Southern Pacific at Roseville, Cal., 725\*  
Transportation of Perishable Fruit, 448  
Reinforced Concrete (See Concrete)  
Reports, Annual (See Annual Reports; also Accounting; also names of companies)  
Reynolds, Thomas, Testimonial to, 451  
Rhode Island:  
Two Track and Four Track Railways in, 955  
Right of Way (See also Real Estate)  
River (See Waterways)  
Riveter (See Machine Tools; also Shop Kinks)  
Road and Track Supply Association, 560\*  
Annual Meeting, 632  
Roadbed (See Maintenance of Way)  
**Roofing:**  
Rex Flintkote Roofing, 651

## Roofing, Colored:

Patent Decision, 385  
Roundhouse (See Shops)  
Routing Instructions, 915  
Rowell-Potter Safety Stop Co.:  
Automatic Train Stop, 171\*, 217\*  
**Rules (See Employee)**  
**Ryerson Co.:**  
Cylinder Boring Bar, 1190\*  
Ryerson, Joseph T., & Son:  
High Speed Friction Saw, 1192\*

## S

**St. Louis:**  
Bridge Arbitraries, 963, 1173  
Joint Standing Committee of St. Louis Railways and Business League, 1561  
Terminal Problem, 1777\*, 1781  
**St. Louis & San Francisco:**  
Oklahoma Two-Cent Fare Law, 452  
**St. Louis Terminal R. R. (See Term. R. R. Assoc. of St. Louis)**  
**Safety Appliance (See also M. C. B. Assoc.:**  
also Brake; also Locomotive Firebox), 1734  
Automatic Train Shop, 171\*, 217\*  
**Safety Appliance Law:**  
Effects, 1483\*  
Esch Bill, 982  
Legislation Proposed, 78\*, 81\*, 171\*, 176\*, 1591\*  
Lives Saved by Automatic Couplers, 525\*  
**Safety Car Heating and Lighting Co.:**  
Berth Lamp, 215\*  
Car Lighting Equipment, 436  
Exhibit, 1642  
Inverted Mantle Lamp, 1723  
Mantle Lantern Buoys, 1756  
**Salary (See Employee)**  
**Samson Cordage Works:**  
Signal Cord, 1472\*  
**Sandwich Selector Co.:**  
Sandwich Selector, 336\*  
**San Francisco, Oakland & San Jose Consolidated Passenger Car, 122\***  
**San Pedro, Los Angeles & Salt Lake Floods,**  
101, 151, 156, 171\*  
Los Angeles Limited, 1382  
**Saratoga:**  
Proposition for Convention, 1660  
**Saw:**  
High Speed Friction, 1192\*  
**Scale:**  
Automatic Beamless, 1023\*  
**Scherzer Rolling Lift Bridge Co.:**  
Bridge, Galveston Causeway, 581  
**School (See Education; also names)**  
**Scullin-Gallagher Iron & Steel Co.:**  
Cast Steel I-Beam Bolster, 1528\*  
Cast Steel Truck Side Frames, 1688, 1760\*  
Miscellaneous Car and Railway Castings, 1776  
**Seaboard Air Line:**  
Phosphate Rock Handling at Grassy Island, Fla., 119\*  
**Section Car (See Car; also Motor Car)**  
**Selector:**  
Sandwich Selector, 336\*  
**Sellers Manufacturing Co.:**  
Anchor Bottom Tie Plates, 632, 809\*  
**Semaphore (See Signal)**  
**Shear (See Machine Tools)**  
**Shed (See Station)**  
**Sheffield Car Co.:**  
Automatic Track Tank Valve, 1647\*  
**Shipper (See Car Service)**  
**Shops (See also Hoisting and Conveying:**  
also Machine Tools; also Shop Kinks):  
Apprentices, 337\*, 870, 871\*, 1133\*  
Apprentice Instruction, 870\*, 871\*  
Apprentice System, 337\*  
B. & O., Mt. Clare, 229\*  
Belting, Leather, 904  
Car, Old and New, 466\*  
Car Repair Department Shop, 1133\*, 1149\*  
Car Wheel Foundry of the C. M. & St. P., 897\*  
Central of Georgia at Macon, Ga., 243\*  
Crane Service in the Foundry, 927\*  
Co Operation, 1343\*  
Crawford Locomotive and Car Works, 1606\*  
D. L. & W. at Buffalo, 1353\*  
D. L. & W., Scranton, 7\*, 221\*, 260\*  
Despatching System, 1343\*  
Efficiency, 2\*, 1133\*, 1143\*, 1248\*  
Efficiency of the Locomotive Repair Shop, 869\*  
Engine Drop Pit and Table, Central of Georgia, 264\*  
Factory of the Flannery Bolt Co., 1682\*  
Featherstone Foundry, Chicago, 28\*  
Foundry Methods, C. M. & St. P., 869\*  
Grand Trunk Apprentice System, 5  
Heine Boiler, 17\*  
How the Foreman Can Promote Shop Efficiency, 869\*, 1133\*, 1140, 1141, 1142, 1343\*, 1345\*  
Lackawanna Bridge Co. Plant, 216  
Lockers for the Men, 1354  
Locomotive and Shop Operating Costs, 1767\*  
Locomotive Terminal, Vandalia, 1041\*  
Lorain Steel Co., 710

## GENERAL INDEX—Continued.

[Illustrated articles are indicated thus\*; Editorials thus†; Letters to Editor thus‡.]

## Shops (Continued):

New Orleans Great Northern at Bogalusa, La., 50\*  
 Organization and System, 1164  
 Output of the Mt. Clare Shops of the B. & O., 1051  
 Piece Work, 466†  
 Reclaiming Material from Scrap, 1354  
 "Shopping," a Locomotive, C. I. R., 58\*  
 Steam Hammer Tools, 45\*  
 Steel Foundry at Vancouver, 120\*  
 Sud-Pacific de Mexico at Empalme, 11\*  
 Tool Layout of the D. L. & W., 221†, 260\*

## Workmen's Tool Boxes, 1354

## Shop Kinks: (Collections of Kinks in First Issue of Each Month.)

Air Hammer for Driving Bolts, 40\*  
 Air Hose Mounting Machine, 34\*  
 Air Hose Nipple Testing Machine, 231\*  
 Air Jacks for Loaded Cars, 1356\*  
 Air Lift, Drawbar, 501\*  
 Air Lift for Placing Wheels in Lathe, 501\*  
 Air Lift for Turning Wheels, 501\*  
 Air Motor Holder, 239\*  
 Air Pump Centering Stand, 1349\*  
 Air Pump Repair Table, 886\*  
 Angle Plate, Crown Bearing, 492\*  
 As a Trade Secret, 1133†  
 Asbestos Grinder, 37\*  
 Babbitter, Crosshead, 39\*, 41\*  
 Babbitting, 886\*  
 B. & O. Spring Shop, 232\*  
 Bar Holder, Boring, 33\*  
 Blacksmith Shop Forgings, 231\*  
 Blueprint Filing Case, 883\*  
 Blacksmith Shop of C. of N. J., 877\*  
 Boiler and Tank Jacks, 1147\*  
 Bolt-Centering Machine, 886\*  
 Bolt Extractor, 43\*  
 Bolt Machine Attachments, 490\*  
 Boiler Shop Kinks of C. of N. J., 883\*  
 Boring Bar, Heavy Duty, 492\*  
 Boring Hollow Spheres, 1146\*  
 Boring Tool, Adjustable, 492\*  
 Brake Hanger Bending Machine, 44\*  
 Brake Hose Repair Bench, 876\*  
 Brake Hose Stripping Machine, 875\*  
 Bulldozer, 233\*  
 Bulldozer and Dies for Making Caboose Steps, 1156\*  
 Bulldozer, Pneumatic, 880\*  
 Caboose Steps, Making, 1155\*  
 Cart for Boiler Washers, 496\*  
 Car Wheels, Device for Loading, 496\*  
 Centering and Drilling Machine, 234\*  
 Center Sills of Steel Tank Cars, Straightening, 229  
 Central of N. J., 873\*  
 C. M. & St. P., 1349\*  
 Check Lifter, 500\*  
 Chill for Molding Anchor Pins, 238\*  
 Chuck and Gage for Crown Bearings, 502\*  
 Chuck, Cylinder Bushing, 239\*  
 Chuck, Eccentric Block Jig, 502\*  
 Chuck, Flat Drill, 236\*  
 Chuck for Air Pump Cylinder Head, 240\*  
 Chuck for Drill Press, 493\*  
 Chuck for Shaping Driving Rod Brasses, 236\*  
 Chucks, Knuckle and Wrist Pin, 495\*  
 Chuck, Shoe and Wedge, 502\*  
 Chuck, Valve Strip, 490\*  
 Clamp, Air Operated, 876\*  
 Claw Bar Tool for Steam Hammer, 45\*  
 Clamp for General Work, 874\*  
 Clamp, Triple Valve Piston Compressor, 876\*  
 Coach Step Holst, 874\*  
 Coach Truck Handling, 1351\*  
 Collinwood Shops, Lake Shore & Michigan Southern, 503  
 Competitions, Announcements of 1†, 221†, 465†, 869†, 1133†, 1343†  
 Coupler Yoke Bending, 880\*  
 Cranes for Handling Wheels and Axles, 1359\*  
 Crank Pin Turning Machine, 41\*  
 Credit for Devices, 871†  
 Crown Bearing Chuck, 240\*  
 Crown Bearing Gage, 234\*  
 Crude Oil Storage, 1152\*  
 Cutting a Steel Channel with an Oxy-Acetylene Torch, 1149\*  
 Cutting Piston Rings, Gang Tool, 236\*  
 Cylinders, Repairing Cracked, 887\*  
 Diaphragm Face-Plate Straightener, 874\*  
 Die Holder, Combination, 499\*  
 Dies, Eccentric Jaw, 878\*  
 Dies, Eye Bolt, 879\*  
 Dies, Foot Forming, 879\*  
 Dies, Patch Bolt, 879\*  
 Dies, Spring Seat Stirrup, 881\*  
 Dies, Wrench Punching and Forming, 496\*  
 Drinking Fountain, 882\*  
 Driver, Wheel Lathe, 493\*  
 Driving Box Collars, Removing, 1352\*  
 Driving Wheels and Axles, Finishing, 224†

## Shop Kinks (Continued):

Drop Pit for Wheels, 1358\*  
 Drop Pit Rail Remover, 39\*  
 Eccentric Blade Bender, 498\*  
 Equalizers, Forming, Under Steam Hammer, 881\*  
 Flexible Old Man, 238\*  
 Floor Repairing, 1356  
 Flue-Cutting Machine, 494\*  
 Flue-Cutting Tool, 38\*, 47\*  
 Flue Expander, 48\*  
 Flue Hole-Cutting Tool, 33\*  
 Flue Sheet Hole Cutting Tool, 500\*  
 Flue Swedging Machine, 36\*, 883\*  
 Flue Testing Machine, 884\*  
 Foot for Bar, 489\*  
 Forging Machine Die Rack, 878\*  
 Forge, Portable, 489\*  
 Forge, Portable Rivet, 496\*  
 Furnace, Gasoline Heating, 40\*  
 Gage and Chuck for Crown Bearings, 502\*  
 Gage for End Play of Lateral Motion, 238\*  
 Gage for Lining Two-Bar Guides, 237\*  
 Gage, Horizontal Mill, 503\*  
 Gage, Tire Wear, 503\*  
 Gang Slotting Tool, 1349\*  
 Grease Press, 1350\*  
 Grinding Triple Valve Piston Packing Rings, Machine for, 241\*  
 Guard for Cut-off Saws, 1156\*  
 Holder-On for Tate Bolts, 884\*  
 Hook Bending Machine, 44\*  
 Hose Coupling and Nipple Machine, 1351\*  
 Hose Couplings, Applying, 491\*  
 Hydraulic Press for Sealing Coupler Yoke Rivets, 1354\*  
 Jack for Placing Air Reservoirs, 240\*  
 Jack, Pneumatic, 873\*  
 Jack, Wheel and Axle, 39\*  
 Jig for Drilling Bolt Holes, 885\*  
 Key Seat Miller, 47\*  
 Knuckle Joint and Socket, 43\*  
 Lake Shore & Mich. So. Collingwood Shops, 503\*  
 Lathe Grinder, 37\*  
 Locomotive, Shop, 500\*  
 Machine Shop Kinks of the C. of N. J., Elizabethport Shops, 885\*  
 Making Box Car Doors, 1355\*  
 Mandrel Cylinder Ring, 36\*  
 Mandrel Packing Ring, 492\*  
 Material Checking Case, 230\*  
 Metallic Piston Packing, 241\*  
 Milling Cutters, 1352  
 Mt. Clare Shops, Shop Kinks, 229\*  
 Mud Rings, Device for Removing, 884\*  
 Oil Cup Solid Turning Tool 37\*  
 Oil Cups, Tool for Machining, 493\*  
 Old Man for Boiler Work, 887\*  
 Oven for Plating Room, 47\*  
 Oxy-Acetylene Torch, Cutting with, 1150\*  
 Packing Ring Gang Tool, 1349\*  
 Packing Ring Grinder, Triple Valve, 496\*  
 Packing Rings, Compressing, 491\*  
 Packing Ring Tool, 1146\*  
 Paint Sprayer, 35\*, 1154\*  
 Patch Bolt Counter-Sink, 491\*  
 Pedestal Feed Blocks, 38\*  
 Pile Band Tool for Steam Hammer, 45\*  
 Piston Puller, 492\*  
 Piston Rings, 1147\*  
 Piston Rod Extractor, 1147\*  
 Planer Shop, 239\*  
 Planer Tool Bar, 239\*  
 Power Rolls for Flanging, 1350\*  
 Press, Grease Forming, 495\*  
 Press, Hydraulic, for Rod Work, 494\*  
 Press, Pneumatic, for Grease Cakes, 502\*  
 Prizes, (See Competitions, Announcement of)  
 Pull-in Clamps, 1152  
 Punching Dies, Tell-Tale Hole, 48\*  
 Punch, Portable, for Light Work, 1152\*  
 Rack, Forging Machine Die, 878\*  
 Radial, Method of Determining, 503\*  
 Ratchet, Close Quarters, 235\*  
 Reach Rod Slotting Tool, 1349\*  
 Reamer, Check and Branch Pipe Joint, 489\*  
 Reamers, Circulating Valve, 499\*  
 Reamer for By-Pass Valve Seat, 49\*  
 Reamer for Reseating Inside Boiler Checks, 494\*  
 Repair Table, Steel Frame, 497\*  
 Ring Grinder, Steam Pipe Joint, 47\*  
 Rocker Arm Boss Turning Tool, 37\*  
 Rod Brasses, Planing, 34\*  
 Rolls for Jacket Iron, 500\*  
 Roundhouse Bench, Portable, 489\*  
 Sand Dryer, Steam, 497\*  
 Sand Receptacle, Temporary, 503\*  
 Scaffolding, Coach Shop, 875\*  
 Scarfing Hammer, Pneumatic, 500\*  
 Scribing Circles on Driving Axles Tool, 237\*  
 Seat Cleaner, Suction, 493\*  
 Separator, Crosshead and Piston, 43\*  
 Shaper Slotting Tool, 1349  
 Shoe and Wedge Chucks, 235\*  
 Shoe and Wedge Planer Tool, 887\*

## Shop Kinks (Continued):

Shop Efficiency and Shop Kinks, 2†, 221†  
 Slotter Tool, 887\*  
 Slotter Tool Bar, 493  
 Smoke Stack Crane, 43\*  
 Spring Band Stripping Press, 231\*  
 Spring Chamfering Rolls, 232\*  
 Spring Clip Forging Dies, 39\*  
 Spring, Coach, Testing Machine, 875\*  
 Spring Compressor, 40\*  
 Spring, Elliptical, Compressor, 230\*  
 Spring, Making, 232\*  
 Spring Puller, 43\*  
 Spring Puller Block, 238\*  
 Spring Seat Stirrups, Bending, 881\*  
 Spring Testing Apparatus, 1155\*  
 Square Holes, Tool for Drilling, 498\*  
 Staybolt Breaker, 33\*, 233\*, 885  
 Steel Cars, Repairing Parts in Place, 1152\*  
 Steel Cars, Straightening Press for Damaged Steel Parts, 1152\*  
 Steel Underframe Straightener, 229  
 Storage Rack for Steel Bars, 1154\*  
 Storage Tank for Journal Packing Oil, 1356\*  
 Stripping, Spring Band, 231\*  
 Swedging and Welding Machine, 877\*  
 Table for Painting Sashes, 229\*  
 Tank Brasses, Device for Removing, 497\*  
 Taper Attachment, 499\*  
 Tate Bolts, Holder-On, 884\*  
 Thermit Frame Welding, 882\*  
 Thermit Weld, Wood Collar for, 45\*  
 Tire Heater, 40\*  
 Timber Hoist, 1153\*  
 Tool Checking Case, 230\*  
 Tool Holder for Planing Valve Strips, 490\*  
 Tool Holder, Heavy Duty, 35\*  
 Tool Holder, Planer, 491\*  
 Tool Post, Pneumatic, 36\*  
 Transfer Carriage for Mounted Car Wheels, 33\*  
 Transfer Table, Low, 45\*  
 Trestle for Supporting Cars, 1358\*  
 Triple Valve Piston Compressor, 876\*  
 Truck, Car Wheel Axle, 495\*  
 Truck for Mounted Wheels, 1358\*  
 Trucks for Pulling Mounted Wheels Under Car, 1359\*  
 Truck for Transporting Mounted Wheels, 1152\*  
 Truck Side Movement Indicator, 1352\*  
 Truing Main Piston Cylinder Machine, 240\*  
 Uncoupling Rods, Bending, 881\*  
 Under Cutter for Solid Oil Cup, 48\*  
 Valve Setting Machine, 495\*  
 Valve, Setting, with Walschaerts Gear, 872\*  
 Vise Stand, Roundhouse, 494\*  
 Waste Press, 220\*  
 Wedge Pop Marks, Tool for Making, 237\*  
 Wheel and Plate Truck, 33\*  
 Wheel Hoist, 1153\*  
 Wheel Lathes, Driver for, 34\*  
 Wheel Press, Portable, 1148\*  
 Wrench for Drawing Studs, 238\*  
 Shoshone Dam, 154  
 Side Track Agreements, 1128  
 Signal (See also Government Signal Board; also Railway Signal Assoc.):  
 Audible Cab Signals, 1121†  
 Charging Outfits for Storage Batteries, 1024\*  
 German Automatic Stop and Cab Signals, 102  
 Lacroix Battery Chute, 924\*  
 Locomotive Headlights and Observation of Signals, 1038, 1098, 1175  
 Pipe Line Carrier Base, 586\*  
 Signals and Interlocking, 616, 646  
 Switch and Semaphore Lamps, 582  
 Tampering with a Signal Light, 1100  
 Uniform Signaling, 624  
 Signal, Block (See also Ry. Signal Assoc.; also names of railways):  
 Arrangement of, 1401†, 1422  
 Automatic Train Stops, 171†, 217\*, 1121†  
 Block Signal and Train Control Board, 171†, 217\*  
 Chicago & North Western at Chicago, 385  
 C. I. R. I. & P., 1241  
 Croton Wreck of the N. Y. C. & H. R. Hearing, 254, 321  
 Mileage January 1, 1339, 1551  
 Modern Signals on Western Roads, 341†, 439†  
 Oregon Short Line, 1288  
 Speed Control Signals on the Interborough, 1554\*  
 Tests of Harrington's Automatic Stop, 1120  
 Signal, Interlocking (See also Ry. Signal Assoc.; also names of railways):  
 Cullybackey Station, Midland Railway of Ireland, 820\*  
 Facing Point Lock, 446



**Signal, Interlocking (Continued):**

- Griffin, Ind., 1418\*
- Multiplication of Safety Devices, 723†
- Tyer's Tablet, 820\*
- South America:**
  - Railway Appliance Requirements, 341†
  - Railways in Central and South America, 411\*
- Southern New England:**
  - Charter, 1121†
  - Grand Trunk's Invasion of New England, 718†
- Southern Pacific (See also Harriman Lines):**
  - Colfax Grade Revision, 344\*
  - Lease of the Gal., Harrisburg & S. A., 274
  - Oil Well Properties, 449, 1175
  - Pine Line from Strongknob, Utah, to Lemay, 905
  - Pre-Cooling Plant, at Roseville, Cal., 725\*
  - Tests of Consolidation and Mallet Locomotives, 91\*
- Southern Railway:**
  - Industrial Department, 1274
  - Peach Trains, 1382
  - Statue of Samuel Spencer, 1218
  - Terminal Site at Memphis, Tenn., 1193†
  - Traffic agreement with the C., C. & O., 452
- Speed (See Fast Trains and Runs; also Locomotive Passenger).**
- Speed (See also Fast Trains and Runs; also Schedule).**
  - Automobile Record, 905
- Spencer Otis Co.:**
  - All Steel-Steel Carline Roof, 1522\*
  - Screw Tie Plates, 554\*
- Spike (See Maintenance of Way)**
- Sprague Electric Co.:**
  - Air Brake Hose, 1475, 1520, 1601, 1647, 1685, 1728, 1760, 1776
- Stairway (See Terminal)**
- Standard Paint Co.:**
  - Colored Roofing Patent Decision, 385
- Standard Rules (See Train Rules)**
- Standpipe:**
  - Sheffield, 715\*
- Standard Car Truck Co.:**
  - Barber Double-Action Roller Bearing Truck, 1608\*
- Stanton, Geo. R.:**
  - Coach and Window Washer, 930\*, 937†, 981†, 1191\*
- State Comm. Rulings:**
  - Colorado: Law Creating Commissions Accepted, 326
  - Georgia: Accident Reports, 915
  - Georgia: Late Passenger Trains, 273
  - Georgia: Publication of Time-Tables, 273
  - Illinois: Reports of Accidents, 846
  - Illinois: Routing Over Cheapest Routes, 458
  - Indiana: Headlights, 108, 160, 324, 1074†
  - Indiana: Installation of Block Signals, 1279
  - Indiana: Railroad Crossing, 915
  - Indiana: Uniform Demurrage Rules, 108
  - Iowa: Uniform Demurrage Rules, 1011
  - Louisiana: Carrier's Liability, 426
  - Kentucky: National Demurrage Rules, 541
  - Louisiana: Baton Rouge Interests Upheld, 1231
  - Louisiana: Equal Rates for Equal Distances, 1564
  - Louisiana: Express Rates from Sheveport, 915
  - Louisiana: New Orleans Interest Upheld, 1230
  - Louisiana: Passenger Trains on Logging Road, 1279
  - Louisiana: Rates on Rough Oak Staves Reduced, 1564
  - Louisiana: Rates for Seats or Berths in Sleeping Cars, 746
  - Louisiana: Second-Hand Machinery Rate, 426, 915
  - Louisiana: Uniform Demurrage Rules, 1011
  - Michigan: Platforms and Platform Steps, 746
  - Michigan: Uniform Demurrage Code, 63, 106
  - Missouri: Proposed Reduction of Freight Rates, 1563
  - Nevada: Rates Reduced—S. P., 458
  - New Jersey: Revaluation, 1564
  - New York: Abandonment of Station, 1062
  - New York: Charles R. Vanneman, Inspector, 273
  - New York: Extra Fare on Train, 273
  - New York: Fatal Accidents, 1062
  - New York, First District (New York City) Annual Report, 126†
  - New York: Grade Crossings, 273
  - New York: Milk Rates Increase, 846
  - New York: Rochester Street Railway Recommendations, 458
  - New York: Upstate Commission Annual Report, 127†
  - Ohio: Coal Rate Reduced, 964
  - Ohio: Loading Milk Cars, 964
  - Oklahoma: Class Rates Reduction, 1011
  - Oklahoma: Mail and Express Business, 204

**State Comm. Rulings (Continued):**

- Oregon: Passes to Railway Commissioners, 63
- Party Tickets, 1279
- Pennsylvania: Private Cars, 375
- Pennsylvania: Stopping at Small Stations, 326
- South Dakota: Coal Rates Reduced, 273
- Texas: Absorbing Port Loading Charges, 1179
- Texas: Revaluation Refused, 1011
- Wisconsin: Concentration Rates, 204
- Wisconsin: Joint Electric Railway Rate Ordered, 1180
- Wisconsin: Marking Freight, 541
- Wisconsin: Spur Track Ordered, 915
- Wisconsin: Tariff Inspections, 204
- Wisconsin: Telephone Installation, 846
- State Ownership (See Government Ownership)**
- Station: (See also Yards and Terminals):**
  - Bush Train Shed at Chicago, 660\*
  - Chicago & North Western Terminal at Chicago, 314\*
  - Chicago Union Passenger Station, 577
  - Joplin Union Station, 660\*
  - Kansas City Union Passenger Station, 800\*
  - Oregon & Washington at Seattle, 148\*
  - Passenger Station Economy, 153
- Staybolt: (See Machine Tools; also Shop Kinks).**
  - Finishing Staybolts and Straight and Taper Bolts for Locomotives, 1360\*
  - Flexible, with Hollow Stems, 1120\*
- Steel (See Iron and Steel; also Rail; also Wheel)**
- Steel (See Car; also Locomotive)**
- Steel Barge for United States Steel Corporation, 1442\***
- Steel Basket Co.:**
  - Corrugated Steel for Cans, 924
- Steel in Concrete (See Concrete)**
- Sterling Electric Mfg. Co.:**
  - Mazdafor Illumination, 1288
- Stock (See Finance)**
- Stockbridge Machine Co.:**
  - Crank Shaper, 926\*
- Stoeber Fdry. & Mfg. Co.:**
  - Pipe Bending Machine, 1526\*
  - Pipe Threading Machine, 1686\*
- Stoker (See Locomotive)**
- Stokers, Mechanical (See Locomotive Fire-box)**
- Storekeeper (See Supplies)**
- Storrs Mica Co.:**
  - Mica Lamp Chimneys, 1474
- Strauss Bascul & Concrete Bridge Co.:**
  - Trunnion Bridges in Europe, 583
- Street Railways (See Electric Railways)**
- Strike (See Employee)**
- Strong, Carlisle & Hammond Co.:**
  - Randall Graphite Sheet Lubricator, 436\*
- Subway (See also Tunnel; also names)**
  - New York, Money for, 101
  - New York Plans, 536
- Sud-Pacific de Mexico:**
  - Shops at Empalme, 11\*
- Supplies (See also Railway Storekeepers' Assoc.):**
  - Handling and Arrangement of Supply Cars, 1261
  - Mechanical Contrivances in Handling Material, 1263
  - Handling of Scrap with Crane and Magnet, 1263
  - Piece Work System in Handling Supplies, 1264
  - Unit of Efficiency, 1265
  - Stationery Department, 1268
- Superheaters: (See Locomotive Superheaters)**
- Surprise Tests (See Employee, Discipline)**
- Switch (See also Signal, Interlocking)**
  - G. L. M. Switch Stand, 691\*
  - Parallel Throw Automatic Switch Stand, 650\*
  - Triplelock Switch Stand, 856\*
  - Unity Switch Stand, 805
- Switch Point (See Rail)**

**T**

- Tank (See Water Service):**
  - Steel Tanks, 716\*
- Tar (See Creosote)**
- Tariff (See Freight Rates; also Passenger Rates)**
- Taxation (See also Legal Decisions)**
  - Alabama Tax Unconstitutional, 426
  - Federal Corporation, Publicity of, 123†
  - Increase Since 1905, 931†, 949\*
  - Increment of Railway Taxation, 3†
  - Oklahoma, 1180
  - Uniform Railway Taxation, 819
- Taylor, Joseph W., 1692†**
- Taylor, W. P., Co.:**
  - Journal Box Cover, 1442\*
- Telegraph Pole:**
  - Diamond Tapered Steel Pole, 581, 1687\*
- Telephone (See also Train Despatching):**
  - Portable Telephones, 1310\*
  - Twentieth Century Limited, Telephone On, 386\*
- Telpher Transfer Plant:**
  - Illinois Central, 1417\*
- Tender (See Locomotive)**
- Tennessee Central:**
  - Through Rates, 326, 375

**Terminal:**

- Platforms and Stairways, 731
- Terminal Railroad Association of St. Louis:**
  - Bridge Arbitraries, 456
  - Service at St. Louis, 717†, 1777†, 1781
  - Francise, 536
- Texas:**
  - Damage Claim Industry, 1103
  - Sixteen-Hour Law, 1219
  - Valuation of Railway Property, 1271
- Texas & Pacific:**
  - Annual Report, 1246\*†
- Ticket (See Passenger Rates)**
- Tientsin-Pukow Railway:**
  - Mogul Locomotive, 444\*
- Ties:**
  - McDonald Reinforced Concrete Cross Tie, 806
  - Metal Tie with York Rail, Section, 291†, 296†
  - Snyder Steel Tie, 587\*, 708
- Ties and Timber (See also Fire; also Lumber), 670**
  - Conservation, 605
  - Construction, 656†
  - Cost of Ties on South American Railways, 522
  - Crude Oil Treatment, 155
  - Forest and Timber Preservation on the Penn., 450
  - Forest Products Laboratory at Madison, Wis., 1101
  - Lowry Preservation Process, 1100
  - Lumber Specifications, 1630, 1653, 1751
  - Pacific Timber Preserving Process, 582
  - Preservation of Wood, 182\*, 408, 658†, 678, 698
  - Protection from Mechanical Wear, 636
  - Records of Test, 1124\*
  - Wasteful Tie Specifications, 656†
  - Wooden Bridges and Trestles, 598\*, 619
- Tie Plate (See Maintenance of Way)**
- Tire (See Wheel)**
- Titanium (See Rail)**
- Toledo & Ohio Central (See also Hocking Valley)**
  - Sale to Lake Shore & Michigan Southern, 812\*†
- Tonnage Rating for Fast Freight Trains, 1547\*, 1788\***
- Tools (See Machine Tools):**
  - Handling and Arrangement of Supply Cars, 1261
- Track (See Maintenance of Way; also Construction, New), 667\*, 680**
  - Burton Track-Laying Machine, 1024
  - Double Track in Maine, 822\*, 866
  - Double Track in New Hampshire, 864\*
  - Inspection, C., N. O. & T. P., 1272
  - Malleable Iron Track Braces, 581
  - Monorail, 104, 138\*, 295†
  - Multiple Track in New Jersey, 1200\*
  - Multiple Track Railways in New York State, 1126\*
  - Multiple Track Railways in Pennsylvania, 1794\*
  - Rockford Track Weeder, 808
  - Two-Track and Four-Track Lines in Connecticut, 1048\*
  - Two-Track and Four-Track Railways in Rhode Island, 955\*
  - Two, Three and Four-Track Railways in Massachusetts, 955\*
  - Widening of the Gage, 765†
- Track Bolt (See Rail Joint)**
- Track Elevation (See also Grade Separation):**
  - C., M. & St. P. at Evanston, Ill., 950\*
- Track Exhibit at Atlantic City, 1644**
- Track Tanks:**
  - Engine and Pump, 1686\*
  - Track Tank Valve, 1647\*
- Tractive Power (See Locomotive Performance)**
- Trade Unions (See Employee)**
- Traffic (See also Colonization; also Freight Traffic; also Passenger Traffic; also Business Situation):**
  - Belgium, 190
  - Germany, 95, 142
  - Industrial Department Work, 451
  - Marker Gardening by Railways, 339†
- Train (See Fast Trains and Runs)**
- Train Despatching:**
  - Telegraph School of the Pennsylvania, 151
- Telephone:**
  - Atchison, Topeka & Santa Fe, 420, 1272
  - Boston & Maine, 435
  - Chicago, Burlington & Quincy, 419
  - Cleveland, Cincinnati, Chicago & St. Louis, 102
  - Great Northern, 195, 1100, 1222
  - Gulf, Texas & Western, 151
  - Lehigh Valley, 195, 319
  - Norfolk & Southern, 1101
  - Santa Fe, 741
  - St. L. & S. F., 1378
  - Southern Railway, 957
  - Union Pacific, 955
  - Virginian Railway, 1101
- Train Lighting (See Lighting)**
- Train Line (See Hose)**
- Trainmen (See Employee)**
- Train Resistance, 718†**
  - Disturbing Factors in Locomotive Capacity and Train Resistance, 596†
  - Virginian Railway, 391†, 816†

## GENERAL INDEX—Continued.

[Illustrated articles are indicated thus\*; Editorials thus†; Letters to Editor thus‡.]

Train Shed (See Station)  
 Tramways (See Electric Railways)  
 Transandine Railway (See also Buenos Ayres & Pacific):  
   Progress of the Work, 59  
 Transits:  
   Bausch & Lomb, 711\*  
 Trestle (See also Bridge):  
   Norfolk & Southern at Albermarle Sound, 399\*  
 Trinidad, Railway Extensions in, 867\*  
 Trolley (See Electric Railways)  
 Truck (See also Bearings; also Shop Kinks):  
   Barber Double-Action Roller Bearing Truck, 1608\*  
   Bettendorf Cast Steel Truck Frames, 1472\*  
   Cast Steel Side Frame and Bolster, 1477\*  
   Dismantling and Assembling the Bettendorf Truck, 1605\*  
   Freight Car Trucks, 1591\*  
   McConway & Torley Designs, 1671  
   M. C. B. Passenger Trucks, 1604\*  
   Springs for Freight Car Trucks, 1628  
 Tube (See Locomotive Boiler; also Tunnel; also Machine Tools; also Shop Kinks)  
 Tunnel (See also Subways; also names):  
   Engineering Features of the Detroit River Tunnel, 1092\*  
   N. Y., N. H. & H., Boston, 536  
   Pennsylvania R. R., New York Extension, 19\*  
   Reconstruction of Chicago River Tunnels, 562\*, 649  
   Shelters for Subway Stairs, 630\*  
   Subaqueous, 519\*, 728\*, 816‡, 824, 859\*, 929\*  
   Subways in New York, 1102  
   Transandine Profile, 416\*  
 Turntable Tractor:  
   Compressed Air, 582\*, 651\*

## U

Underframe (See Car)  
 Underwood, H. B., & Co.:  
   Pipe Bender, 1398\*  
 Union Fibre Co.:  
   Lith Board, 585\*, 711\*, 805, 1477\*  
   Linofoil, 652\*, 810\*  
   Model Refrigerator Car, 1609\*  
 Union Pacific (See also Harriman Lines):  
   Automatic Block Signals Between Topeka and Salina, 335  
   Educational Bureau, 1419  
   Land Grants, 1402‡  
   Steel Box Car, 308\*  
 Union Switch & Signal Co.:  
   Alternating Current Signaling Patent Decision, 1395  
   Exhibit, 710  
 U. S. Metallic Packing Co.:  
   King Metallic Packing, 1648\*  
 U. S. Metal and Manufacturing Co.:  
   All Steel-Steel Carline Roof, 1522\*  
   Diamond Tapered Steel Pole, 581, 1687\*  
   Dunham Hopper Door Device, 1522  
   Feasible Drop Brake Staff, 1647\*  
   M. C. B. Repair and Defect Card Box, 1476\*  
   Owen-Cochran Pressed Steel Journal Box, 1609\*  
   Wolf Automatic Lock, 809\*  
 U. S. Steel Corporation:  
   Annual Report, 814‡  
   Free Relief for Employees, 1052  
   Pension, 1188  
 Universities (See names)  
 University of Michigan:  
   Railway Education at, 516‡

## V

Valuation of Railways, 77‡, 155  
   Fair Return on, 1129  
   National Association of Railway Commissioners, 437‡  
   Washington, 359, 437‡, 859‡  
 Value of Railway Property:  
   South Station at Boston, 1243‡

Valve (See also Machine Tools; also Shop Kinks)  
   Automatic Float Valve, 1072\*  
   Baker-Pilliod Valve Gear, 1608  
   Clark Drip Valve, 1190\*  
   Hobart Allfree Valve Gear, 1575\*  
   Homestead Valves, 1688\*  
   Pilliod Locomotive Valve Gear, 1817\*  
   Setting Walschaerts Valve Gear, 872\*  
   Walschaerts Valve Gear, 1689‡  
 Vanadium (See Iron and steel)  
 Vanadium Metals Co.:  
   Vanadium Bronze as a Bearing Metal, 1681\*  
 Vancouver Engineering Works:  
   Steel Foundry at Vancouver, 120\*  
 Van Dorn, W. T., Co.:  
   Corrugated Steel End for Box Cars, 1603\*  
 Vandalla Railroad:  
   Annual Report, 1290‡  
   Locomotive Terminal at Terre Haute, 1041\*  
 Velocipede (See Motor Car)  
 Ventilation:  
   Garland Ventilators, 1642, 1757\*, 1774  
   Hudson River Tubes, 1758  
   Sirocco Electric Fan, 1774\*  
   Ventilating Tunnels and Subways, 1724  
 Viaduct (See Bridge)  
 Virginian Railway:  
   Train Resistance on, 391‡, 816‡, 937‡

## W

Wabash:  
   Free Bridge at St. Louis, 905  
 Wages (See Employee)  
 Walker & Bennett Mfg. Co.:  
   Folding Divan for Private Car, 1646  
 Walker, O. S., & Co.:  
   Magnetic Chucks, 1400\*  
 Walker, Roberts, 128  
 Walschaerts Gear (See Valve)  
 Ward Equipment Co.:  
   Ideal Heating System, 169\*  
 Washington:  
   Valuation of Railways in, 359, 437‡  
 Washington, Baltimore & Annapolis:  
   Change in System of Operation, 418  
 Water Power (See Hydraulic)  
 Water Service:  
   Concrete Foundation for Water Tank, 129\*  
 Waterways:  
   Kansas City and St. Louis, 909  
   Light from Europe on Proposed Development, 813‡  
   Transportation and Traffic in Belgium, 190  
   Transportation and Traffic in Germany, 95, 142  
 Water Purification:  
   Feed Water Treatment, 1688  
   Gans Water Softener, 1172  
   German Water Softener, 1172  
   Ground Operated Water Softener, 712\*, 1522\*, 1727\*  
   Water Softening, 1751  
   Water Supply for Locomotives, 1760\*  
 Water Weigher, 1775\*  
 Kennicott, 583\*  
 Watrous Co.:  
   Exhibit, 1776  
 Weir & Craig Manufacturing Co.:  
   Compressed Air Turntable Tractor, 582\*, 651\*  
   Hoists and Jacks, 715\*  
   Piling Tractor for Swing Bridges, 122\*  
 Welding:  
   Improved Methods, 1344‡  
   Oxy-Acetylene Process, 1165, 1531‡, 1535\*  
 Western Classification Committee:  
   Meeting on January 21, 200  
 Western Electric:  
   Telephone Equipment on Twentieth Century Limited, 386\*

Western Maryland:  
   New York Central & Western Maryland, 157, 173‡  
 Western Pacific:  
   Damaged by High Water, 1003  
   Yards and Terminals, 1029\*  
 Western Railroad Association, 129  
 Western Railway Equipment Co.:  
   Automatic Brake Slack Adjuster, 1757  
 Western Railway of Havana:  
   Eight-Wheel Engines with Superheaters, 403\*  
 Western Union:  
   Control by American Telephone and Telegraph, 365  
 Westinghouse Electric and Mfg. Co.:  
   Portable Testing Outfit, 1816\*, Exhibit, 1773  
 West Virginia:  
   Two-Cent Fare Law, 541  
 Wheel (See also Gage):  
   American Steel Foundries Castings, 1601\*  
   Car Wheels, 1589\*  
   C. M. & St. P. Foundry, 897\*  
   Davis Steel Wheels, 1528\*  
   Flat Spot Limit, 593‡, 603\*  
   Freight Car Wheels, 1579‡, 1731‡  
   Improvement of Cast Iron Wheels, 1689‡  
   Loose Tires, 1134‡  
   Mounting Pressures for Wheels, 1634\*  
   Solid Forged Wheel Pieces, 1726  
   Steel Tires, 1732, 1761‡  
   300-Ton Double Car Wheel Press, 287\*  
   Tire Furnace, 1684\*  
   Tire Mill, 510\*  
 Wheeling & Lake Erie:  
   Coal Tests, 1049  
 Whistle (See Locomotive)  
 White Enamel Refrigerator Co.:  
   Hatch Ventilator and Plug, 1607\*  
   Removable Bulkhead Partitions, 1520\*  
 Wildin, George W., 1650‡  
 Willard, Daniel, 49\*  
 Window:  
   Lovell Window Operator, 691\*  
   National Spring Parallel Guides, 1646  
   Sash Operator, 641  
   Shop Window Sash Operator, 925\*  
   Stanton Coach and Window Washer, 930\*, 937‡, 981‡, 1191\*  
 Winters-Coleman Scale Co.:  
   Automatic Beamless Scale, 1023\*  
 Wisconsin:  
   Railroad Commission Traveling Inspectors, 931‡  
 Wire:  
   Copper-Clad Steel Wire, 585\*  
   Kerite Insulated Cables, 682  
 Wood (See Ties and Timber)  
 Woods, Edwin S., & Co.:  
   Anti-Friction Center and Side Bearings, 335\*  
 Wood, Guilford S.:  
   Nipple End Protector and Bracket, 1523  
 Wood Preservers' Association, 152  
 Woods, S. A., Machine Co.:  
   Planer and Matcher, 286\*  
 Workmen's Insurance (See Employee)  
 Wood (See Ties and Timber)  
 Works (See Shops)

## Y

Yale & Towne Mfg. Co.:  
   Double Acting Door Check, 509\*  
 Yards and Terminals (See also Station) 798\*  
 Pennsylvania Improvements in Newark, 1557\*  
 Penn. R. R. Station at Baltimore, 947\*  
 Pennsylvania Railroad Station in New York City, 998\*  
 Terminal Layouts, 589\*  
 Value of Care in Freight Yard Work, 827‡  
 Vandalla at Terre Haute, 1041\*  
 Western Pacific, 1029\*

## NEW BOOKS.

Accounting Every Businessman Should Know, 340  
 Air Brake Catechism and Instruction Book, 858  
 Alternating-Current Motors, 128  
 Bridge and Structural Design, 1334  
 Civil Engineering as Applied in Construction, 1247  
 Commercialism and Journalism, 1076  
 Congress and the Railways, 516  
 Construction of Concrete Fence Posts, The, 1780  
 Corrosion of Iron and Steel, The, 1029  
 Cotton Mills of Alabama and Georgia, 1196  
 Designing and Detailing of Simple Steel Structures, 1247  
 Earning Power of Railroads, 1910, The, 1196

Electric-Power Conductors, 128  
 Elements of Machine Design, 174  
 Exporter's Encyclopedia, 516  
 Federal Safety Appliance Acts: Index-Digest of Decisions, 1780  
 Field Practice of Railway Location, The, 1534  
 First Principles of Railway Signaling, The, 516  
 Freight Transportation on Trolley Lines, 723  
 Handbook of Cost Data for Contractors and Engineers, 1534  
 Metal Spinning, 1404  
 Official List of Open and Prepay Stations, 1293  
 Patent Laws of the World, 1293  
 Practical Talks on Contracting, 1196  
 Protection of Railroads from Transmission Line Crossings, The, 81

Railway Signaling in Theory and Practice, 390  
 Rapid Transit Routes in New York City, 723  
 Six-Language Technical Dictionaries, 128  
 Subsidy for American Shins Only, 815  
 Surveyor's Handbook, 1404  
 Tables and Diagrams for Obtaining the Resisting Moments of Eccentric Riveted Connections, 1247  
 Traffic History of the Mississippi River System, 516  
 Treatise on Masonry Construction, A, 4  
 Valuation of Public Service Corporation, 4  
 Watkins on Shippers and Carriers, 226  
 Westinghouse E.T. Air Brake Instruction Book, 81



## FOREIGN RAILWAY NOTES.

[See also General Index, under subjects and names.]

Africa, 1054  
**Anatolia, 1573**  
 Arabia, 1104  
 Argentine Republic, 130, 398, 504, 1092, 1344, 1391, 1569, 1811  
 Austria, 723, 1018, 1092  
 Belgium, 853  
 Brazil, 1160, 1216, 1367  
 British Congo, 94  
 Chile, 1024, 1391  
 China, 196, 318, 398, 576, 803, 859, 868, 1072, 1092, 1126, 1348  
 Costa Rica, 1018, 1067  
 Denmark, 1338  
 Ecuador, 313, 1072  
 Egypt, 1018

Finland, 318  
 France, 818, 835, 1380  
 Germany, 504  
 Hayti, 1391  
 Honduras, 818, 1352  
 India, 1569  
 Indo-China, 859  
 Italy, 1092, 1569  
 Japan, 381, 1092, 1348  
 Madeira-Mamore Railway, 32  
 Manchuria, 75, 1054, 1126  
 Mexico, 1092  
 Nicaragua, 1359  
 Orange River Colony, 84

Panama, 518, 1024  
 Paraguay, 1570  
 Persia, 1391  
 Peru, 130, 290, 318  
 Prussia, 504, 915, 1564, 1569  
 Russia, 1018  
 San Salvador, 1024  
 Slam, 1396  
 Siberia, 1569  
 Soudan, 398  
 Spain, 314, 1092  
 Sweden, 130, 1342  
 Switzerland, 169, 504, 727, 815, 1160  
 Syria, 1104  
 Turkey, 84  
 Uganda, 1342  
 Uruguay, 1024, 1573, 1811

## INTERSTATE COMMERCE COMMISSION RULINGS.

[See also General Index.]

Acme Cement Plaster Co. v. Chicago & North Western et al., 913  
 Acme Cement Plaster Co. v. Chicago Great Western et al., 845  
 Acme Central Plaster Co. v. St. Louis & San Francisco et al., 1277  
 American Crescote Works, Ltd., v. Illinois Central et al., 1061  
 Anderson, Clayton & Co. et al. v. Chicago, Rock Island & Pacific et al., 1228  
 Anderson-Tully Co. v. Chicago, Rock Island & Pacific et al., 912  
 Andy's Ridge Coal Co. et al. v. Southern Railway et al., 1277  
 Armour Car Lines v. Southern Pacific Co., 272  
 Associated Jobbers of St. Louis v. Atchison, Topeka & Santa Fe et al., 1228  
 Awbrey & Sempie v. Galveston, Harrisburg & San Antonio et al., 63  
 Barnum, E. T., Iron Works v. Cleveland, Cincinnati, Chicago & St. Louis et al., 912  
 Bascom, F. H., & Co. v. Atchison, Topeka & Santa Fe et al., 106  
 Bayou City Rice Mills et al. v. Texas & New Orleans et al., 1432  
 Black Horse Tobacco Co. v. Illinois Central et al., 541  
 Blinn, W. L., Lumber Co. v. Southern Pacific et al., 1321  
 Block, A. S., & Co. v. Louisville & Nashville, 1278  
 California Fruit Growers' Exchange v. Santa Fe Refrigerator Despatch Co., et al., 160  
 Canadian Valley Grain Company v. Chicago, Rock Island & Pacific et al., 1563  
 Carstens Packing Co. v. Oregon Short Line et al., 106  
 Cedar Hill Coal & Coke Co. et al. v. Colorado & Southern et al., 426  
 Central Lumber Company v. C. M. & St. P., 1809  
 Chatfield Manufacturing Co. v. Louisville & Nashville et al., 1278  
 Clark, Fred. G., Co. v. Buffalo & Susquehanna, 1278  
 Colorado Bedding Co. v. Chicago, Burlington & Quincy et al., 1278  
 Commercial Club of Omaha v. Southern Pacific et al., 913  
 Consumers' Ice Co. et al. v. Atchison, Topeka & Santa Fe, 1277  
 Continental Lumber & Tie Co. v. Texas & Pacific et al. Blocker-Miller v. same, 1009  
 Coors, A., v. Southern Pacific et al., 1278  
 Copper Queen Consolidated Mining Co. v. Baltimore & Ohio et al. and 16 other cases in which substantially the same complaint was made, 1061  
 Corn Belt Meat Producers' Association v. Chicago, Burlington & Quincy et al., 746  
 Cressy, F. L., for J. H. Cressey & Co., v. Chicago, Milwaukee & St. Paul et al., 1011  
 Crombie & Co. et al. v. Atchison, Topeka & Santa Fe, 912  
 Davies v. Louisville & Nashville et al., 1809  
 Delray Salt Co. v. Detroit, Toledo & Ironton et al., 1109  
 Delray Salt Co. v. Michigan Central et al., 1179  
 Delray Salt Co. v. Pennsylvania Railroad et al., 1110  
 Dobbs, E. P., v. Louisville & Nashville Railroad Co., 1060  
 Donohue, P. P., v. Chicago, Milwaukee & St. Paul et al., 912  
 Duluth & Iron Range Railroad v. Chicago, St. Paul, Minneapolis & Omaha et al., 1384

Duluth & Iron Range v. C., St. P., M. & O., 1809  
 Du Pont de Nemours, E. I., Powder Co. v. Pennsylvania et al., 458  
 Eschner, Bernard, v. Pennsylvania Railroad et al., 913  
 Farmers' Co-operative and Education Union v. Great Northern et al. Astoria Chamber of Commerce v. same, 160  
 Fathauer, Theo., Company v. St. Louis, I. M. & S. et al., 1809  
 Ferguson, C. E., Saw Mill Co. v. St. Louis, Iron Mountain & Southern et al., 1277  
 Florida Fruit and Vegetable Shippers' Protective Association v. Atlantic Coast Line et al., 456  
 Forest City Freight Bureau v. Ann Arbor Railroad et al., 1109  
 Frederick & Kempe Co. et al. v. New York, New Haven & Hartford, 1384  
 Friend Paper Co. v. Cleveland, Cincinnati, Chicago & St. Louis, 1060  
 Fuller, W. P., & Co. v. Southern Pacific et al. and 10 other cases disposed of at the same time, 1060  
 Gamble-Robinson Commission Co. v. Chicago, Burlington & Quincy et al., 1277  
 Germain Co. v. Philadelphia, Baltimore & Washington et al., 912  
 Glavin Grain Co. v. Chicago & North Western et al., 1110  
 Greater Des Moines Committee v. Chicago, Milwaukee & St. Paul, 914  
 Gund, H., & Co. v. Chicago, Burlington & Quincy, 1278  
 Hagar, W. G., Iron Co. v. Pennsylvania et al., 1809  
 Henderson Elevator Co. v. Illinois Central, 846  
 Henley, George, et al. v. Chicago, Milwaukee & St. Paul et al., 1277  
 Hollingshead & Blei Co. v. Pittsburgh & Lake Erie et al., 1060  
 International Harvester Co. of America v. Chicago, Milwaukee & St. Paul, 1109  
 In the matter of the substitution of tonnage at transit points, 1229  
 Jennison, W. J., Co. et al. v. Great Northern et al., 913  
 Jones, J. R., v. Southern Railway, 1011  
 Joynes, H. W., v. Pennsylvania Railroad, 106  
 Kentucky Wagon Manufacturing Co. v. Illinois Central et al. Milburn Wagon Co., Toledo, St. Louis & Western et al., 1278  
 Kiel Woodenware Co. v. Chicago, Milwaukee & St. Paul, 1109  
 Knox, S. H., v. Wabash Railroad, 1061  
 Lamb, J. I., Co. v. Michigan Central et al., 1228  
 Lammers, C. A., Bottling Co. v. Baltimore & Ohio et al., 1278  
 Larrowe Milling Co. v. Chicago & North Western et al., 271  
 Lesser, Simon, v. Georgia Railroad et al., 1385  
 Lull, Charles R., & Co. v. Minneapolis, St. Paul & Sault Ste. Marie, 1277  
 Lauer, E., & Son v. Southern Pacific et al., 912  
 Littell, T. B., v. St. Louis Southwestern et al., 1060  
 Liverpool Salt & Coal Co. et al. v. Baltimore & Ohio et al. Dixie Salt Works v. same, 912

Loch Lynn Construction Co. v. Baltimore & Ohio, 160  
 Loftus, George S., v. Pullman Co. et al., 987  
 Loriburg, H., Co. v. New York, Chicago & St. Louis et al., 1060  
 Maldonado & Co. v. Ferrocarril de Sonora et al., 912  
 Marshall & Michel Grain Co. v. St. Louis & San Francisco et al., 1109  
 Memphis Cotton Oil Co. et al. v. Illinois Central et al., 63  
 Memphis Freight Bureau v. St. Louis Southwestern, 913  
 Milburn Wagon Co. v. Lake Shore & Michigan Southern et al., 1060  
 Montgomery Freight Bureau v. Louisville & Nashville et al., 458  
 National Manufacturing Co. v. Chicago Great Western et al., 1278  
 National Refining Co. v. Atchison, Topeka & Santa Fe, 1278  
 Noble, William K., v. Pittsburgh, Shreveport & Pacific et al., 1110  
 Noble, William K., v. Toledo & Western et al., 1432  
 Ocheltree Grain Co. v. Texas & Pacific et al., 1278  
 Ohio Iron & Metal Co. v. Wabash Railroad et al., 1277  
 Okerson, John A., v. Pennsylvania Railroad et al., 1011  
 Ottumwa Commercial Association v. Chicago, Burlington & Quincy et al., 203  
 Pabst Brewing Co. et al. v. Chicago, Milwaukee & St. Paul et al., 63  
 Peale, Peacock & Kerr et al. v. Central of Jersey—Georges Creek Coal & Iron Co. v. same, 845  
 Penn, F. R., Tobacco Co. v. Old Dominion Steamship Co. et al., 1061  
 Platten Produce Co. v. Kalamazoo, Lake Shore & Chicago et al., 1110  
 Plummer, William, Company v. Northern Pacific, 1809  
 Pope Manufacturing Co. v. Baltimore & Ohio et al., 160  
 Racine-Sattley Corps v. Chicago, Milwaukee & St. Paul et al., 1009  
 Railroad Commission of Tennessee v. Ann Arbor et al., 203  
 Rainey & Rogers v. St. Louis & San Francisco, 912  
 Receivers & Shippers' Association of Cincinnati v. Cincinnati, New Orleans & Texas Pacific et al. Chicago Association of Commerce v. Pennsylvania Company et al., 1320  
 Roach & Seiber Co. v. Chicago, Milwaukee & St. Paul et al., 1061  
 Rose, E. F., et al. v. Boston & Albany et al., 1320  
 Rosenblatt, Louis, and Moses Rosenblatt, doing business under the firm name and style of H. Rosenblatt & Sons, v. Chicago & North Western et al., 1110  
 Rotsted, William, Co. v. Chicago & North Western, 1110  
 Royal Metal Manufacturing Co. v. Chicago Great Western, 1110  
 Ryan, G. W., v. Great Northern et al., 1110  
 Sackett Plaster Board Co. v. Buffalo, Rochester & Pittsburgh et al., 1277  
 Sage & Co. v. Illinois Central, 1060  
 Saunders, E. E., and T. E. Welles, doing business as E. E. Saunders & Co., v. Southern Express Co., 1321  
 Schultz-Hansen Co. v. Southern Pacific et al., 1277

## INTERSTATE COMMERCE COMMISSION RULINGS—Continued.

[See also General Index.]

Snook, William C., v. Central of New Jersey, 203  
 Snyder-Malone-Donahue Co. v. Chicago, Burlington & Quincy et al., 1432  
 Southern Cotton Oil Co. v. Atlantic Coast Line Railroad et al., 1228  
 Southern Cotton Oil Co. v. Louisville & Nashville et al., 1110  
 Southern Timber & Land Co. v. Southern Pacific et al., 1110  
 Spreckles Brothers' Commercial Co. v. Monongahela Railroad et al., 1060  
 Spring Hill Coal Company v. Erie Railroad et al., 1563  
 Sprunt, Alexander, & Son v. Seaboard Air Line, 1110  
 Stevens Grocery Co. v. Grand Rapids & Indiana et al., 1011  
 Stone-Ordean-Wells Co. v. Philadelphia, Baltimore & Washington et al., 1061  
 Stone-Ordean-Wells Co. v. Southern Pacific et al., 912  
 Sunderland Brothers v. Chicago, Burlington & Quincy et al., 1563  
 Sunderland Brothers Co. v. Missouri, Kansas & Texas et al., 1384

Sunnyside Coal Mining Co. v. Denver & Rio Grande et al., 746  
 Thompson, J. W., Lumber Co. et al. v. Illinois Central et al., 913  
 Tioga Coal Co. v. Chicago, Rock Island & Pacific et al., 1278  
 Townley Metal & Hardware Co. v. Chicago, Rock Island & Pacific, 1278  
 Tritch, George, Hardware Co. v. Chicago, Rock Island & Pacific, 912  
 Tyson & Jones Buggy Co. v. Aberdeen & Ashboro et al., 62  
 United States v. Denver & Rio Grande, 845  
 Utica Traffic Bureau v. New York Central & Hudson River et al., 1227  
 Utica Traffic Bureau v. New York, Ontario & Western, 1061  
 Virginia-Carolina Chemical Co. v. St. Louis, Iron Mountain & Southern et al., 913  
 Vulcan Steam Shovel Co. v. Missouri Pacific et al., 1179  
 Wabash Coating Mills v. Wabash Railroad et al., 912

Wells-Higman Co. v. St. Louis, Iron Mountain & Southern et al., 1061  
 Werner, Louis, Saw Mill Co. v. Illinois Central, 203  
 Wheeling Corrugating Co. v. Chicago, Milwaukee & St. Paul et al., 1009  
 White Brothers v. Southern Pacific et al. and four other cases, 1278  
 Willamette Pulp & Paper Co. v. Northern Pacific et al., 1278  
 Williams, Nathan B., v. Wells Fargo & Co., 846  
 Wilson, J. H., Saddlery Co. v. Chicago & Southern et al., 1109  
 Windsor Turned Goods Co. v. Chesapeake & Ohio et al., 1060  
 Winona Carriage Co. v. Pennsylvania Railroad et al., 1228  
 Wholesale Fruit & Produce Association v. Atchison, Topeka & Santa Fe et al., 540  
 Woodward, Wight & Co. v. Chicago, Burlington & Quincy et al., 1563  
 Zang Brewing Co. v. Chicago, Burlington & Quincy et al., 1278

## STATE COMMISSION RULINGS.

[See also General Index.]

Barker, H. W., v. Chicago, Milwaukee & St. Paul, 1385  
 Baton Rouge Board of Trade v. the New Orleans, Texas & Mexico, 1231  
 Brown, H. W., v. Janesville Street Railway, 1385  
 Burlington, Brighton & Wheatland Telephone Co. v. Chicago & North Western, 846  
 City of Neenah v. Wisconsin Traction, Light, Heat & Power Co., Wisconsin Electric Railway, 1180  
 Eden Independent Lime & Stone Co. v. Chicago & North Western, Union Lime Co. and Nast Brothers' Lime & Stone Co., interveners, 1386  
 Fergot, G. C., v. Chicago & North Western, 204  
 Hickerson Roller Mill Co. v. Northern Pacific, 915  
 Indiana Manufacturers and Shippers' Association v. Indiana Car Service Association et al., 108

In re condition and efficiency of locomotive headlights, 108  
 The Interstate Commerce Commission v. the Chicago, Rock Island & Pacific et al. Burnham, Hanna, Munger Dry Goods Co. et al. v. the Chicago, Rock Island & Pacific et al., 1433  
 Letter of Commissioner W. D. Williams to receiver of International & Great Northern, 1011  
 Mayer, F., v. Illinois Central and the Chicago & North Western, 204  
 Morris, James, v. the Buffalo, Lockport & Rochester, 273  
 New Orleans Board of Trade v. Louisiana & Arkansas Railway et al., 1230  
 New Richmond Roller Mills Co. v. Chicago, St. Paul, Minneapolis & Omaha, 1180  
 Osceola Mill & Elevator Co. v. Minneapolis, St. Paul & Sault Ste. Marie, 1179

Pischel, Charles, v. Chicago, St. Paul, Minneapolis & Omaha, 1432  
 The Pittsburgh Vein Operators' Association of Ohio v. Wheeling & Lake Erie et al., 964  
 Railroad Commission of Louisiana v. the Kentwood & Eastern, 1279  
 Shreveport Traffic Association v. the Pacific Express Co., Wells, Fargo & Co. Express, the Southern Express Co., 915  
 Somo River Lumber Co. v. Wisconsin & Northern, Minneapolis, St. Paul & Sault Ste. Marie and Chicago, Milwaukee & St. Paul, 1179  
 Stanton, John A., et al. v. Pennsylvania Railroad, 326  
 Webster Manufacturing Co. v. Chicago, St. Paul, Minneapolis & Omaha, 1385  
 The West Jefferson Creamery Co. v. Baltimore & Ohio Railroad, 964  
 Wisconsin Butter Manufacturers and Milk Producers' Protective Association v. Chicago & North Western et al., 1385

## PERSONAL.

[Portraits are indicated thus\*.]

Abercrombie, F. P., 206\*  
 Ackert, C. H., 109\*  
 Allen, J. W., 1566  
 Auch, John F., 111\*  
 Auten, J. C., 378  
 Baldwin, Lewis W., 1234  
 Bannard, W. N., 206\*  
 Barnum, Morgan K., 968\*  
 Batchelder, F. C., 966\*  
 Beglen, R. N., 1234  
 Bethard, A. D., 1564  
 Biggar, William Hodgins, 204  
 Blaser, F. E., 966\*  
 Blauvelt, Martin Post, 543  
 Borner, William, 1566  
 Brandriff, Charles D., 1232  
 Briggs, Edward S., 1566  
 Bronson, Miles, 110  
 Brooks, Belvidere, 415  
 Brown, Lucian C., 382  
 Brown, Roland G., 279\*  
 Brumley, D. J., 1182  
 Bryson, Joseph M., 1564  
 Buker, Joseph E., 283\*  
 Byram, H. E., 327\*  
 Burnham, C. G., 326\*  
 Carothers, J. B., 1113\*  
 Carroll, J. T., 1389\*  
 Chesbrough, John M., 545  
 Clark, A. B., 378  
 Clark, Frank H., 1445  
 Clift, Albert E., 1566  
 Coapman, E. H., 162\*  
 Coates, Frank R., 166  
 Coman, W. E., 111\*  
 Conklin, L. H., 852  
 Connor, Walter C., Jr., 545  
 Constans, Oscar A., 1182\*  
 Coombs, Edwin H., 1811  
 Curtis, Leigh G., 1182  
 Curtis, Theodore H., 1612, 1771

Dabney, C. T., 205\*  
 Daly, J. W., 377\*  
 Daly, John M., 1181\*  
 Dean, John W., 277\*  
 Dickinson, William F., 1322  
 Donohue, Joseph, 1233  
 Downs, Lawrence A., 1280\*  
 Driscoll, John J., 1181  
 Durham, William Arthur, 1564  
 Eber, John W., 748\*  
 Elston, Alva C., 1565\*  
 Evans, T. W., 1565\*  
 Fabian, Harry A., 378  
 Fisher, J. B., 206\*  
 Fitzhugh, E. H., 375\*  
 Filey, Thomas J., 1181  
 Fort, Gerrit, 377\*  
 Fowler, Melville M., 1565  
 Fox, Eugene, 207\*  
 French, C. L., 1013\*  
 Fuller, Charles E., 1762, 1771  
 Gibb, Sir George S., 1387\*  
 Gorsuch, C. B., 1233\*  
 Greene, William F., 378  
 Groseclose, W. B., 1388\*  
 Hartley, L. C., 1567  
 Herrera, A., 1014\*  
 Hetzler, Howard G., 376  
 Hobson, W. P., 1323  
 Holden, Hale, 1232\*  
 Hollenbeck, A. T., 1112\*  
 Hungerford, S. J., 849\*  
 Hutchinson, J. B., Jr., 378  
 Jackson, John H., 1565  
 John, E. B., 327  
 Johnson, J. C., 206\*  
 Jurgensen, D. F., 160\*  
 Kies, William S., 847\*  
 Kirkman, Marshall M., 1180\*

Lacy, Addison B., 968  
 Lamb, Edwin T., 1386\*  
 Lambert, Edward J., 1810  
 Lasseter, J., 848\*  
 Laughlin, H. R., 1233  
 Logan, Robert S., 205  
 Lynch, P. J., 1565  
 McBain, Donald R., 1389\*  
 McCabe, Guy S., 1566  
 McCormack, F. E., 1811\*  
 McCormick, E. O., 847\*  
 McCoy, W. K., 205\*  
 McCullough, J. C., 543  
 McDonald, A. D., 161  
 McFarland, W. M., 921\*  
 Maupin, John D., 1323  
 Meeder, Frederick H., 748  
 Miller, Darius, 109\*, 242\*  
 Miller, R. B., 111\*  
 Mitchell, Barrett B., 109\*  
 Modisette, J. B., 748\*  
 Moody, Samuel, 544  
 Morgan, Bernard E., 207\*  
 Morris, Ray, 1082\*  
 Mulhern, J. W., 1564  
 Parish, Le Grand, 1068\*  
 Park, William L., 1012\*  
 Payne, Frank E., 63  
 Perkins, Charles E., 207  
 Pollock, G. L., 1183  
 Prendergast, Alfred P., 163  
 Ramsey, N. P., 1387  
 Redfearn, B. W., 1388  
 Rhoads, J. J., 378  
 Rhoads, Lewis B., 1113\*  
 Safford, H. R., 1187  
 Smith, Frank P., 1186\*  
 Saunders, Walter Shelton, 967  
 Sheafe, James S., 1323

Sheppard, Frank L., 1565\*  
 Shute, Henry D., 975  
 Sivley, C. L., 1062\*  
 Smith, Charles F., 278\*  
 Smith, Frank P., 166  
 Smith, N. W., 376  
 Stanley, H. W., 543\*  
 Steinbrenner, C. C., 505\*  
 Stevens, James Paul, 1233  
 Stimson, E., 1014\*  
 Summerhays, George S., 1323  
 Talty, John A., 458  
 Taylor, Joseph W., 1692  
 Terrell, C. H., 1389\*  
 Terry, William A., 207\*  
 Thompson, A. W., 1013\*  
 Vanneman, Charles R., 273  
 Voorhees, Henry B., 1279\*  
 Waldo, Gentry, 163  
 Walker, E. H., 331\*  
 Walker, Roberts, 129  
 Wallace, John F., 65\*  
 Walsh, James F., 1280\*  
 Ware, Charles, 847  
 Wathey, J. F., 448  
 Webster, James, 279\*  
 West, James L., 1566  
 Westfall, A. H., 967\*  
 White, Richard A., 376  
 Whitenton, W. M., 205\*  
 Whitney, A. J., Jr., 376  
 Wilden, George W., 1650  
 Willard, Daniel, 49\*  
 Williams, U. B., 1233  
 Williamson, Frederick E., 161  
 Wilson, Frank H., 110  
 Wilson, John T., 1234  
 Wilson, William H., 1062\*  
 Wise, Edward M., 204\*  
 Young, Edward E., 376



## OBITUARY.

[Portraits are indicated thus\*.]

Adams, A. B., 328  
 Alexander, Gen. Edward P., 1183  
 Baker, Archer, 208  
 Barnard, John F., 328  
 Bellman, Henry J., 331  
 Bettendorf, W. P., 1439\*  
 Bond, Isaac, 1183  
 Boughter, Ned, 852  
 Brown, Fayette, 212  
 Brown, George F., 116  
 Bryan, E. P., 208  
 Buchanan, William, 208  
 Buxton, Clifford, 163\*  
 Clarke, Charles Cameron, 1389  
 Conlisk, Charles, 1116  
 Converse, J. H., 1187\*  
 Donelson, Emory V., 974  
 Doyle, Charles E., 1436  
 Duesberry, Richard Henry, 545  
 Dunn, William E., 459  
 Durham, Caleb Wheeler, 968

Eldredge, D. B., 968  
 Evans, Dudley, 917  
 Ferry, Charles H., 1284  
 Gardner, George F., 917  
 Gilpatrick, C. L., 545  
 Gorman, William A., 112  
 Grimshaw, S. B., 545  
 Harris, Joseph S., 1436  
 Hedley, James, 1281  
 Hart, William A., 1064  
 Harvey, Leroy M., 212  
 Hayes, G. T., 1070  
 Hickox, Ralph W., 917  
 Hunt, George W., 545  
 Ilse, John C., 917  
 Jackson, George B. P., 279  
 Jewett, E. S., 378  
 Johnson, Charles O., 1064  
 Johnson, Henry, 1086, 1189\*

Kerr, Walter C., 1238\*  
 Keys, James, 279  
 Kinsey, John I., 1234  
 McMunn, S. W., 1327  
 Morgan, Richard Price, 1323  
 Oliphant, Richard C., 550  
 Parker, J. V., 328  
 Paterson, James R., 1394  
 Platt, Charles H., 1323  
 Pond, Ashley, 118  
 Pool, I. G., 1567  
 Porter, Henry H., 968  
 Post, William C., 117  
 Post, William J., 1234  
 Purcell, H. H., 545  
 Randall, E. J., 427  
 Reeve, G. B., 1183  
 Richardson, Edwin, 116  
 Riebenack, Max, 1281  
 Rinearson, W. C., 1811

Robinson, Frederick Mortimer, 1019  
 Rooney, John, 1323  
 Shaver, Llewellyn A., 1239  
 Simmons, Richard S., 849  
 Sinclair, George S., 1323  
 Snyver, Frederick W., 1814  
 Smith, Frank B., 70  
 Smith, Jackson, 279  
 Snow, William W., 1087\*  
 Sortwell, A. F., 849  
 Storer, George W., 427  
 Tiffin, W. R., 1389  
 Twombly, Hamilton McK., 112  
 Vose, Prof. George Leonard, 922  
 Weir, Levi C., 917  
 Whitaker, N. E., 70  
 Wilbur, Elisha P., 1567  
 Wilson, W. Frank, 849  
 Wood, W. S., 545

## RAILWAY CONSTRUCTION.

Aberdeen & Rockfish, 113  
 Abilene & Southern, 1281, 1390  
 Abilene Central, 118, 460, 749  
 Alabama Roads, 1436, 1567  
 Alabama, Tennessee & Northern, 546  
 Alaska Northern, 1436, 1812  
 Alaska Roads, 1567  
 Alaska Short Line, 1390  
 Alberta & Great Waterways, 113, 969  
 Alberta Central, 113  
 Alberta Midland, 1235  
 Alberta Roads, 379  
 Alexandria & Western, 749, 917  
 Algoma Central & Hudson Bay, 209, 459, 917, 1014, 1070, 1390, 1436  
 Alliance & Akron Short Line, 1567  
 Altus, Roswell & El Paso, 433  
 Altus, Wichita Falls & Hollis, 749, 1324  
 American Central, 113, 349, 1436  
 Anadarko & Western, 1113  
 Arbuckle & Western, 917, 969  
 Argentine Central, 1436  
 Argentine Tunnel, 1436  
 Berkshire Street Railway, 1812  
 Arizona & California, 1286  
 Arizona & Colorado, 379, 460, 749  
 Arizona & Swansea, 460  
 Arizona Eastern, 280, 460, 749, 1324  
 Arizona, Mexico & Gulf, 1021, 1064  
 Arizona Southern, 969, 1064  
 Arkansas, Oklahoma & Western, 379, 428  
 Arkansas Terminal, 546, 1014  
 Arkansas Valley Interurban, 749  
 Artesian Belt, 546  
 Asherton & Gulf, 1113, 1324  
 Astoria, Seaside & Tillamook, 969  
 Astoria Southern, 1235  
 Atchison, Topeka & Santa Fe, 113, 118, 328, 379, 428, 1113  
 Atlanta, Birmingham & Atlantic, 1183, 1390  
 Atlantic Coast Line, 113, 1235, 1394  
 Atlantic Northern & Southern, 459  
 Atlantic, Quebec & Western, 1235  
 Augusta, Lincoln & Northern, 546  
 Baker City Interurban, 284  
 Baltimore & Ohio, 213, 379, 546, 849, 1064  
 Baltimore & Ohio Chicago Terminal, 1113  
 Bangor & Aroostook, 1113  
 Bartlett-Florence, 460, 546, 1113  
 Beaumont & Great Northern, 546  
 Bellingham Eastern Logging & Railway Co., 1113  
 Bessemer & Lake Erie, 1070  
 Bingham & Garfield, 1014, 1390  
 Boise & Western, 333, 1567  
 Boise-Butte, 209  
 Boston & Albany, 1183, 1235, 1567  
 Boston & Eastern (Electric), 1014  
 Boston & Maine, 113, 164, 1014, 1064, 1235  
 Bridgeport & Danbury (Electric), 1812  
 Brownwood North & South, 113, 328, 428, 849  
 Brownwood Southwestern, 546, 1064  
 Buckhannon & Northern, 280  
 Buffalo, Rochester & Eastern, 164  
 Buffalo, Rochester & Pittsburg, 68  
 Burbard Inlet Tunnel & Bridge Co., 379  
 Butte & Boise, 969  
 Butte & Plumas, 1567  
 Caldwell, Roswell & Big Bent Interurban, 1390  
 California Roads, 969, 1812  
 California Roads (Electric), 280  
 Camden & Trenton Traction, 1324  
 Canadian Northern, 68, 384, 460, 546, 917, 969, 1014, 1113, 1235, 1281, 1390, 1436  
 Canadian Northern Alberta, 1281  
 Canadian Northern Ontario, 328  
 Canadian Northern Quebec, 546, 1436, 1812  
 Canadian Pacific, 113, 280, 328, 333, 379, 428, 460, 969, 1014, 1064, 1183, 1235, 1436, 1812  
 Canadian Roads, 68, 328, 1113  
 Carlton & Coast, 546, 849  
 Carnesville Railway, 1390  
 Caro Northern, 384  
 Central Arkansas & Eastern, 1812  
 Central Idaho, 333, 428

Central Ohio Promoting Co., 1390  
 Central Pacific, 1015  
 Central Railroad of Oregon, 917  
 Chambersburg, Green Castle & Waynesboro (Electric), 460  
 Charles City & Western, 849, 1015  
 Charles, Crosbyton & North Plains, 1015  
 Cheat River & Monongahela Valley, 1064  
 Cherokee Belt & Interurban, 1015  
 Cherryvale, Oklahoma & Texas, 68, 546, 749, 849, 969, 1015  
 Chesapeake & Ohio, 164, 428, 546  
 Chicago & Alton, 1113  
 Chicago & Elmhurst, 328  
 Chicago & Illinois Western, 969  
 Chicago & North Western, 68, 379, 969, 1064, 1436  
 Chicago & Wisconsin Valley, 1812  
 Chicago, Aurora & De Kalb (Electric), 749  
 Chicago, Bloomington & Peoria (Electric), 164  
 Chicago, Blue Island & Joliet (Electric), 1812  
 Chicago, Burlington & Quincy, 333, 379, 428, 849, 1064, 1114, 1281, 1815  
 Chicago Great Western, 749  
 Chicago, Memphis & Gulf, 280  
 Chicago, Milwaukee & Puget Sound, 68, 164, 209, 379, 849, 1015, 1183  
 Chicago, Milwaukee & St. Paul, 749, 1015, 1183, 1239, 1281, 1436, 1567  
 Chicago, Rock Island & Gulf, 1183  
 Chicago, Rock Island & Pacific, 113, 280, 379, 428, 460, 546, 749, 969, 1015, 1114  
 Chicago, Weatherford & Brazos Valley, 546  
 Chicago, St. Paul, Minneapolis & Omaha, 1281  
 Chicago Subways, 1114  
 Choctaw, New Castle & Western, 1281  
 Cieneguita & Sonora Central, 917  
 Cincinnati, Hamilton & Dayton, 379, 969  
 Cincinnati, Portsmouth, Pomeroy & Pittsburgh Electric, 1114  
 Clarion & East Brady (Electric), 280  
 Cleveland, Cincinnati, Chicago & St. Louis, 428, 433, 546, 749, 917, 1324  
 Coal & Coke, 328  
 Coeur d'Alene & Pend d'Oreille, 1114, 1390  
 Coleman, Llano & Southern, 209, 546  
 Colorado & Southern, 460  
 Columbus, Mississippi & Western Alabama, 428  
 Connellsville & State Line, 1235  
 Coos Bay, Oregon & Idaho, 1064  
 Copper River & Northwestern, 1070, 1436  
 Corvallis & Eastern, 164  
 Craig Mountain, 546  
 Crystal City & Uvalde, 328, 1567  
 Cuba Railroad, 1567  
 Cumberland Valley, 1015, 1235  
 Cynthia & Paris, 209  
 Dakota, Kansas & Gulf, 328  
 Dallas (Cleburne Interurban), 1324  
 Dauphin Island Railway & Harbor Co., 1183  
 Dawson Lumber Co. Road, 1183  
 Dayton, Lebanon & Cincinnati Railroad & Terminal Co., 1235  
 Decatur Southern Traction, 1812  
 Delaware, Lackawanna & Western, 969, 1183, 1437  
 Denison & Pacific Suburban, 1324  
 Denver & Gulf, 68, 328, 749  
 Denver & Rio Grande, 71, 460, 1390  
 Denver, Kingfisher & Gulf, 1183  
 Denver, Laramie & Northwestern, 379, 429, 970, 1183, 1390  
 Denver, Northwestern & Pacific, 113, 460  
 Des Chutes Railroad, 164, 209  
 Detroit & Mackinac, 113  
 Detroit, Lansing & Grand Rapids (Electric), 1070, 1114, 1235  
 Detroit River Tunnel, 750  
 Dominion Atlantic, 1235  
 Duluth, Rainy Lake & Winnipeg, 328, 429  
 Duluth, Winnipeg & Pacific, 328, 429, 1390  
 Durham & Charlotte, 850  
 Dyersburg Northern, 280  
 Eastern Illinois, 750  
 Eastern Montana Electric, 1015

Eastern Oklahoma Traction, 546  
 Easton & Washington Traction Co., 1064  
 East Texas Traction, 280, 1015  
 Edmonton, Yukon & Pacific, 1281  
 Elgin, Joliet & Eastern, 1064, 1114  
 Elizabethtown Terminal, 1183, 1324  
 Elkton, Fairhill & Oxford Railway & Power Co., 1184  
 El Paso & Southwestern, 970, 1015  
 Emporia & Ashokis, 1324  
 Enid, Ochiltree & Western, 460, 546  
 Erie, 917, 922  
 Esquimaux & Nanaimo, 1437  
 Estacado & Gulf, 164, 379  
 Eureka & Palisade, 1281  
 Evansville, Mount Carmel & Northern, 429, 917, 1114  
 Everett & Tacoma, 1114, 1235  
 Fairchild & North Eastern, 1568  
 Fairmont & Pittsburgh, 750  
 Fernwood & Gulf, 1235, 1437  
 Florida Railway, 546  
 Forest City, Fertile & Mason City, 1437  
 Fort Smith & Interurban, 429  
 Fort Smith & Western, 164  
 Fort Smith Light & Traction Co., 922  
 Fort Smith, Subiaco & Eastern, 1568  
 Fort Smith, Van Buren & Eastern, 164  
 Fort Wayne & Springfield (Electric), 1235  
 Fort Wayne & Winona Traction, 1812  
 Fort Worth, Mineral Wells & Western (Electric), 1015  
 Fostoria, Napoleon & Defiance, 72  
 Fox River Valley, 213  
 Franklin & Abbeville, 850  
 Fraser River Lumber Company's Road, 1015  
 Gainesville Midland, 429  
 Gainesville, Oklahoma & Western, 917, 1184, 1281, 1437, 1815  
 Gallatin Valley (Electric), 750, 1015  
 Galveston-Houston (Electric), 209, 750, 1015  
 Garden City, Gulf & Northern, 918  
 Gary, Hobart & Valparaiso (Electric), 113, 164  
 Georges Creek & Cumberland, 1235  
 Georgia & Florida, 750, 1568  
 Georgia, Florida & Alabama, 546  
 Georgia Roads, 850  
 Georgia, Southern & Florida, 1235  
 Gila Valley, Globe & Northern, 113  
 Gilmanton Railway, 1437  
 Gilmore & Pittsburgh, 68, 1390  
 Grand Trunk, 68, 164, 460, 1015, 1064, 1235, 1568  
 Grand Trunk Pacific, 333, 379, 460, 750, 850, 918, 970, 1114, 1235, 1281  
 Great Lakes Connecting, 333  
 Great Northern, 68, 113, 164, 546, 750, 970, 1114, 1235, 1437  
 Green County Railroad, 68  
 Greenville & Spartanburg, 1070  
 Greenville, Spartanburg & Anderson (Electric), 113  
 Gulf & Northwestern, 970  
 Gulf Coast & Provident City, 918, 970, 1064  
 Gulf, Colorado & Santa Fe, 213, 280, 429, 1184, 1235, 1324  
 Gulf, De Funik & Northern, 213  
 Gulf, Delta & North Western, 379  
 Gulf, Texas & Western, 1324  
 Halifax & Eastern, 1812  
 Hammond, Chicago Heights & Southern Traction, 164  
 Hannibal & Northern Missouri (Electric), 1015  
 Hilo (Honolulu), 1812  
 Holton Inter-Urban, 1390  
 Hornell Bath (Electric), 68  
 Horse Cave & Eastern, 1437  
 Houston & Bay Shore Traction, 1184  
 Houston & Texas Central, 1282  
 Hudson & Manhattan, 1065, 1239  
 Huntington, Lewiston & Juniata Valley Traction, 1281  
 Idaho & Washington Northern, 68, 850  
 Idaho & Western, 68  
 Idaho Central, 547  
 Idaho Northern, 547

## RAILWAY CONSTRUCTION—Continued.

- Idaho Roads, 164  
 Illinois Oil & Coal Belt, 547, 750  
 Illinois Traction, 68  
 Imperial Valley, 164, 1390  
 Intercolonial, 429, 970, 1065  
 International & Great Northern, 280  
 International & Great Southern, 1437  
 International Elevated Railroad, 1015  
 Iowa & Dakota Interurban, 1015  
 Iowa & Omaha Short Line, 850  
 Iowa & Southwestern, 164  
 Iowa City, Ottumwa Southwestern (Electric), 1324  
 Iron Mountain, St. George & Grand Canyon, 918  
 Isothermal Traction Co., 547  
 Jacksonville & Atlantic Short Line, 918  
 Johnston & Altoona (Electric), 850, 1016  
 Kanawha & Michigan, 429, 918, 970  
 Kankakee & Urbana Traction, 113  
 Kansas City, Lawrence & Topeka (Electric), 918  
 Kansas City, Mexico & Orient, 113, 429, 547, 1235  
 Kansas City, Ozarks & Southern (Electric), 68  
 Kansas City, Tulsa & Southwestern, 1568  
 Kansas City Union Traction, 1184  
 Kansas, Lawton & Gulf, 379, 1184, 1236  
 Kansas Northwestern, 209  
 Kansas, Oklahoma & Panama, 1324  
 Kansas Roads, 850  
 Kentucky Highlands, 460  
 Kettle Valley Lines, 1016  
 Kinder & Northwestern, 970, 1016  
 Knoxville, Sevierville & Eastern, 547  
 Kootenay Central, 1812  
 Lackawanna & Wyoming Valley, 280, 329  
 Lackawanna Railroad Co. of New Jersey, 970  
 Laclede, Dallas & Western, 379, 1016, 1236, 1324  
 Lake Arthur, Jennings & Northern, 1114  
 Lake Erie & Pittsburgh, 1114  
 Lake Shore & Michigan Southern, 333, 429, 750, 1184  
 Lancaster & Northern, 164  
 Lansing & Northeastern (Electric), 379, 750  
 Laramie, Hahn's Peak & Pacific, 547, 1021  
 Lehigh Valley, 1065  
 Lehigh Valley Traction, 460  
 Lehigh Valley Transit, 1184  
 Little Rock, Maumelle & Western, 547  
 Long Island, 461, 1016  
 Louisiana & Arkansas, 113  
 Louisiana-Texas Roads, 1184  
 Louisville & Nashville, 329, 333, 461, 552  
 Louisville, Lincoln Farm & Mammoth Cave Traction, 1282  
 Lynchburg, Amherst & Northern, 750  
 McCrory & Beedeville Southern, 1390, 1812  
 Maine Central, 1065  
 Manistee & North Eastern, 329  
 Mannington & Smithfield, 1282  
 Manufacturers' Railway (St. Louis), 918  
 Marietta, Columbus & Cleveland, 1324  
 Marion Railway, 1016  
 Marshall & East Texas, 68, 1236  
 Memphis, Dallas & Gulf, 970, 1437  
 Memphis, Paris & Gulf, 280, 970  
 Memphis, Pensacola & Northwestern, 850  
 Metropolitan Steam & Electric Railway, 209  
 Mexican Pacific, 547, 918, 1016  
 Mexican Roads, 68, 164, 280, 461, 547, 918, 1324, 1812  
 Mexican Southern, 329, 750  
 Mexico North Western, 113  
 Mexico, Santa Fe & Perry Traction, 1812  
 Michigan Central, 329, 750  
 Middle Georgia Interurban, 547  
 Midland Continental, 1016  
 Midland Pennsylvania, 429  
 Milner & Northside, 1236  
 Minneapolis & Rainy River, 113  
 Minneapolis & St. Louis, 750  
 Minneapolis, St. Paul & Sault Ste. Marie, 280, 329, 429, 461, 547, 750, 918, 1114, 1184, 1282, 1390  
 Minster & Laramie, 379  
 Mississippi Roads (Electric), 1568  
 Missouri & North Arkansas, 970  
 Missouri, Kansas & Texas, 429, 461, 750, 1016  
 Missouri, Oklahoma & Gulf, 284, 329, 461, 1236, 1812  
 Missouri Pacific, 379, 461, 1437  
 Missouri Roads (Electric), 380  
 Monongahela Railroad, 1568  
 Montana Rapid Transit, 547, 750  
 Montana Roads (Electric), 1016  
 Montezuma & Western, 1437, 1812  
 Montreal, Kapatchewan & Rupert Bay, 1184  
 Montreal Underground & Elevated (Electric), 547  
 Moorefield & Virginia, 1282, 1324  
 Mount Adams, 1437  
 Mountain Valley & Plains, 113, 461  
 Mount Hope, Patch Grove & Bagley, 1812  
 Muscatine North & South, 280  
 Muskogee Transit Co., 1184  
 Naples & Northwestern, 1568  
 Nashville, Chattanooga & St. Louis, 1324  
 National Railways of Mexico, 751, 918, 1236  
 Nebraska & Dakota, 1437  
 Nebraska, Kansas & Southern, 850  
 Nevada-California-Oregon, 113, 751, 918  
 Nevada Roads, 461, 970  
 New Jersey Rapid Transit, 1324  
 New Mexico Central, 114  
 New Park & Fawn Grove, 850  
 Newton Northwestern, 1568  
 New York & North Shore Traction, 1016  
 New York Central & Hudson River, 380, 751, 1065, 1324, 1328, 1815  
 New York Connecting, 384, 970  
 New York, New Haven & Hartford, 918, 1016, 1065, 1328, 1437, 1568, 1812  
 New York Subways, 280, 329, 461, 974, 1065  
 New York, Westchester & Boston, 1114, 1437  
 Nez Perces & Idaho, 114  
 Niagara Falls, Welland & Dunville (Electric), 68  
 Niagara, St. Catharines & Toronto, 547  
 Norfolk & Western, 68, 280, 329, 384, 429, 1568, 1812  
 Northampton Traction Co., 1065  
 North Carolina Roads, 1016  
 North Coast, 751  
 North Dakota Roads (Electric), 1236  
 Northern Electric, 209, 380, 1236  
 Northern Pacific, 69, 209, 329, 429, 547, 751, 970, 1065, 1236, 1325  
 North Jersey Rapid Transit Co., 1184  
 North Missouri Central (Electric), 1325  
 North Mountain, 1236  
 North Western Corporation, 380  
 Northwestern Pacific, 1813  
 Northwestern Railroad, 547, 1184  
 Nueces River Valley, 461, 850, 1568  
 Nueces Valley Railroad, 1391  
 Oakland & Antioch (Electric), 209  
 Ohio Electric, 429  
 Ohio River & Northern, 380  
 Oklahoma & North Texas, 547  
 Oklahoma City & Fort Smith Traction, 209  
 Oklahoma City & Pan-Handle, 429  
 Oklahoma City & Suburban (Electric), 1065  
 Oklahoma-Kansas Electric, 1437, 1813  
 Oklahoma Public Service & Interurban, 1391  
 Oklahoma Roads, 69, 329  
 Okmulgee & Coaltion, 1065  
 Olympic Peninsular, 329  
 Omaha, Council Bluffs & Sioux City (Electric), 1016  
 Omaha, Western & Lincoln (Electric), 114, 751, 918  
 Ontario & Northern, 1813  
 Ontario Roads, 429  
 Oregon & Washington, 280, 429  
 Oregon Electric, 1236  
 Oregon Railroad & Navigation Co., 114, 209, 429, 970, 1437  
 Oregon Short Line, 429, 547, 1065, 1184, 1325, 1394  
 Oregon Trunk Line, 164, 209, 974, 1016, 1114, 1184, 1282, 1437  
 Osage Western, 69, 209, 918  
 Oswego, Columbus & Cherryvale (Electric), 1065  
 Ottawa, Montreal & Eastern, 380  
 Ottawa, Rideau Valley & Brockville, 69, 1016, 1813  
 Pacific & Eastern, 1282  
 Pacific & Idaho Northern, 1438, 1572  
 Pacific Railway & Navigation Co., 380  
 Paducah & Illinois, 1114  
 Palacios, San Antonio & Pecos Valley, 1114  
 Panama Railroad, 69, 970  
 Panama Roads, 69  
 Pan-American, 269  
 Paris & Mount Pleasant, 1282  
 Paris & Southern, 547  
 Pascagoula Northern, 918  
 Paul City, Sycamore City, Sabetha & Southwestern, 1282  
 Payette Valley, 850, 1065, 1325  
 Pecos-Fort Stockton, 918  
 Pecos Valley Southern, 281, 547  
 Peninsular Railway Co. (Electric), 1236  
 Pennsylvania, 751, 970, 1065, 1391, 1568  
 Pennsylvania Midland, 751  
 Pennsylvania Roads, 1568  
 Pennsylvania Roads (Electric), 281, 429, 751  
 Pensacola & Southwestern, 1065  
 Pensacola, Mobile & New Orleans, 971  
 Peoples Railway, 1813  
 Philadelphia & Reading, 547  
 Philadelphia & Suburban (Electric), 1236  
 Philadelphia & Western, 1184  
 Philadelphia, Bethlehem & New England, 1114  
 Phillipsburg & Susquehanna Valley, 1282  
 Phoenix & Buckeye, 1325  
 Pine Bluff & Northern, 1394, 1568  
 Pine Pass Railway, 209  
 Pittsburgh & Lake Erie, 164, 547, 1568  
 Pittsburgh & Shawmut, 114, 1325  
 Pittsburgh & Susquehanna, 751  
 Pittsburgh, Butler, Slippery Rock & Grove City (Electric), 329  
 Pittsburgh, Shawmut & Northern, 114, 1325  
 Port Angeles & Olympia, 329  
 Port Angeles Peninsular, 329  
 Portland, Eugene & Eastern (Electric), 209, 1066  
 Portland, Gray & Lewiston (Electric), 1236  
 Prairie Farm & Southwestern, 209, 281, 918, 1282, 1438, 1813  
 Prescott & North-Western, 1236  
 Quanaah & Gulf, 329  
 Quanaah, Acme & Pacific, 461, 850, 1184, 1325  
 Quanaah, Seymour, Dublin & Rockport, 1066, 1184  
 Quebec Central, 69, 209  
 Quincy Western, 1438  
 Raleigh & Southport, 164, 281  
 Rangeley Lakes & Megantic, 1325  
 Rapid City, Black Hills & Western, 1438  
 Red River Valley & Texas, 751, 1184  
 Reid-Newfoundland, 209  
 Richmond & Chesapeake Bay (Electric), 114  
 Rock Island Southern, 971, 1236  
 Rock Island, Texico Farwell & Gulf, 1438  
 Rockingham Railway, 114  
 Rockland County (Electric), 281  
 Rock River Traction, 971  
 Rogue River Valley, 209  
 Rome & Northern, 850, 1114, 1239  
 Roscoe, Snyder & Pacific, 1813  
 Roswell, Northern & Gulf, 114  
 Rural Railway of Manitoba, 461  
 Rutland Railway, Light & Power Co., 1016  
 St. Johns River Terminal Co., 1236  
 St. Louis & Pacific, 850  
 St. Louis & San Francisco, 69, 547, 1066  
 St. Louis, Brownsville & Mexico, 118, 281, 433, 918  
 St. Louis County Belt, 164  
 St. Louis East Side Belt Terminal, 918  
 St. Louis, Iron Mountain & Southern, 1184, 1391  
 St. Louis-Kansas City (Electric), 1016  
 St. Louis, Kennett & Southeastern, 547  
 St. Louis, St. Charles & Northern Traction (Electric), 1188  
 St. Louis Southwestern, 1115  
 Sacramento & Sierra (Electric), 1016  
 Salt Lake & Idaho, 919, 1066, 1325  
 Salt Lake & Ogden, 971, 1325  
 San Antonio & Aransas Pass, 1036  
 San Antonio, Gulf & Tampico, 329  
 San Antonio, Rio Grande & Tampico, 429, 850, 1325, 1813  
 San Diego & Arizona, 1066  
 San Diego, El Cajon & Escondido (Electric), 329  
 Sanford & Troy, 850, 1017  
 San Francisco, Idaho & Montana, 461  
 San Luis Southern, 1066, 1438  
 San Pedro, Los Angeles & Salt Lake, 165, 461, 1282  
 Santa Fe, Liberal & Englewood, 329  
 Santa Fe, Raton & Des Moines, 329  
 Santa Fe, Raton & Eastern, 329  
 Savannah, Augusta & Northern, 850  
 Sebo, Laconbe & Jordan Valley, 1115, 1236  
 Scranton & Binghamton Traction, 209  
 Scranton, Dunmore & Moosic Lake, 329  
 Seaboard Air Line, 1017, 1038  
 Shawnee (Electric), 210, 547  
 Sioux City & Eastern Traction Co., 1391  
 Sioux Falls & Western, 751, 1066  
 Slippery Rock & Grove City Street Railway (Electric), 1391  
 Sonora Railroad, 919  
 South Carolina & Western, 380, 1017  
 Southern, 69, 1236  
 Southern New England Railway Co., 333, 1017, 1066, 1568  
 Southern Pacific, 114, 281, 329, 461, 751, 919, 1017, 1066, 1286, 1568  
 Southern Pacific of Mexico, 114, 165, 919, 971, 1236  
 South Shore Traction, 1568  
 Southwestern, 165  
 Southwestern New York Traction, 1236, 1568  
 Sparks Western, 1236  
 Spokane & British Columbia, 1017  
 Spokane International, 1017, 1066, 1115, 1391  
 Springfield, Nixa & Southern Interurban Railway & Power Co., 1184  
 Springfield Traction Co., 380, 461  
 State Line & Southern, 1813  
 Statesville Air Line, 919  
 Sterling & Northern, 552  
 Stephenville North & South Texas, 1115, 1286  
 Stockton Terminal & Eastern, 210  
 Stuttgart & Rice Belt, 919  
 Sumpter Valley, 165  
 Suwanee River & White Springs, 114  
 Tacoma Eastern, 165  
 Tallahassee & Gulf, 1391  
 Tehuantepec National, 114  
 Temiskaming & Northern Ontario, 429, 1066, 1391, 1438  
 Temple & Northwestern, 380, 461, 751, 1115  
 Tennessee Central, 547, 971  
 Tennessee Traction, 971  
 Terrell-Dallas Interurban, 919  
 Texas & Pacific, 429, 1813  
 Texas Central, 547, 1115  
 Texas North & South, 548  
 Texas Roads, 210, 429, 548  
 Texas Roads (Electric), 114, 210, 1236  
 Tioga & Southeastern, 548  
 Toledo & Ohio Central, 1184  
 Toledo, St. Louis & New Orleans, 165, 281  
 Toledo, St. Louis & Western, 1115  
 Tombigbee Valley, 1017  
 Tonopah & Tidewater, 1070  
 Toppenish, Simcoe & Western, 210, 280  
 Tri-City & Northwestern, 210  
 Trinity Valley & Northern, 210, 280, 281, 751  
 Tucumcari & Memphis, 1184  
 Tucumcari, Portales & Gulf, 548, 919, 1017, 1438  
 Tuscaloosa Mineral, 1391  
 Tuscarora Railroad, 114  
 Tuscarora Valley, 114



Ultima Thule, Arkadelphia & Mississippi, 1038  
 Union Pacific, 210, 213, 329, 850, 919, 1115  
 Union Springs & Northern, 281  
 United Railways Co. (Electric), Portland, Ore., 1391  
 Utah Roads (Electric), 329  
 Uvalde & Leonia Valley Interurban, 165  
 Vallejo & Northern (Electric), 548  
 Vancouver, Victoria & Eastern, 69, 1115  
 Vera Cruz & Isthmus, 165, 210  
 Vera Cruz, Tabasco & Campeche, 1325, 1568  
 Virginia & Carolina Southern, 461  
 Virginia & Southwestern, 1391  
 Virginian, 114, 329  
 Wamego & Rock Creek Valley, 1282

Washington & Tidewater, 429  
 Washta & Black Mountain, 284, 333, 971  
 Wautauga Railroad, 114  
 Waycross & Florida, 971  
 Waycross & Southern, 1813  
 Webber Falls, Shawnee & Western, 165  
 Westchester Northern, 329, 1115, 1328  
 Western Allegheny, 461, 548  
 Western Maryland, 165, 380, 459, 461, 548, 850, 1017, 1236, 1325, 1438  
 Western Ohio (Electric), 380  
 Western Washington Railway & Navigation Co., 1066  
 West Penn Railway Co., 919  
 West Penn Traction, 919  
 West Shore Railroad (Electric), 1391

West Washington Railway & Navigation Co. (Electric), 1236  
 Wheeling & Lake Erie, 118  
 Whitefish & Polson, 751  
 Wichita Falls & N.W., 433, 548, 751, 971, 1325  
 Wichita Falls & Wellington, 548, 751, 1325  
 Wichita Falls-Oklahoma City, 974  
 Wichita, Kinsley, Scott City & Denver Air Line, 548  
 Winona Interurban, 69  
 Winston-Salem Southbound, 114  
 Wisconsin & Northern, 114, 165  
 Wisconsin Roads, 281, 1066, 1038  
 Wrightsville, Adrian & Lyons, 1115  
 Wyoming Railway, 114, 971  
 Zacatecas & Orient, 1115

## RAILWAY FINANCIAL NEWS.

Abbotsford & Northeastern, 1237  
 Alabama & Vicksburg, 1326  
 Alabama, New Orleans, Texas & Pacific Junction, 462  
 Alaska Northern, 1115  
 Albany & Northern, 381, 430  
 Alberta Railway & Irrigation, 1282  
 Algoma Central & Hudson Bay, 1185, 1569  
 Allegheny Valley, 462  
 Altoona & Beech Creek, 1237  
 American Railways (Electric), 330  
 Ann Arbor, 851, 1185  
 Arizona & Colorado, 330  
 Arizona Eastern, 330  
 Arizona Eastern of New Mexico, 330  
 Atchison, Topeka & Santa Fe, 282, 854, 919  
 Atlanta & West Point, 210, 971  
 Atlanta, Birmingham & Atlantic, 1237, 1282, 1569  
 Atlantic & Lake Superior, 1569  
 Atlantic Coast Line, 210, 213  
 Aurora, Elgin & Chicago, 282  
 Baltimore & Ohio, 548, 1115, 1237, 1282, 1392  
 Baltimore & Ohio Chicago Terminal, 115, 1115, 1282  
 Bangor & Aroostook, 919  
 Beaumont & Great Northern, 210  
 Beaumont, Sour Lake & Western, 1017, 1392  
 Beech Creek Railroad, 1237  
 Berkshire Street Railway, 1392  
 Birmingham Terminal, 919  
 Boston & Albany, 1115, 1569  
 Boston & Maine, 115, 210, 330, 430, 548, 851, 1282  
 Boston & Northern, 210  
 Boston Railroad Holding Co., 115, 210, 330, 430, 851, 1569  
 Brooklyn Rapid Transit, 462, 1282  
 Brooklyn Union Elevated, 1282  
 Buffalo & Susquehanna, 282, 919, 1067, 1185, 1237, 1326, 1438  
 Buffalo, Rochester & Pittsburgh, 330  
 Camas Prairie, 752  
 Camden & Trenton Railway, 333  
 Canadian Northern, 210, 282, 381, 548, 851, 1392, 1569  
 Canadian Pacific, 381, 430, 1067, 1282  
 Central of New Jersey, 1017, 1185, 1569, 1813  
 Central New England, 1237, 1282, 1326, 1438  
 Chattanooga Southern, 919  
 Chesapeake & Ohio, 430, 462, 851, 919, 1185, 1282, 1326  
 Chicago & Alton, 752, 1237, 1282, 1392  
 Chicago & Eastern Illinois, 462  
 Chicago & North Western, 381, 430, 1115, 1569  
 Chicago & Southern Traction, 210  
 Chicago, Burlington & Quincy, 330  
 Chicago, Cincinnati & Louisville, 920, 1283, 1326, 1392  
 Chicago City & Connecting Railways, 462  
 Chicago City Railway, 330, 548  
 Chicago Great Western, 69  
 Chicago, Indiana & Southern, 1813  
 Chicago, Milwaukee & Puget Sound, 115, 752  
 Chicago, Milwaukee & St. Paul, 115, 851, 1067, 1115, 1188, 1237, 1392, 1569  
 Chicago, Rock Island & Pacific, 115, 210, 462, 548, 971, 1017, 1115, 1392  
 Chicago Southern, 462  
 Chicago Terminal Transfer, 115  
 Cincinnati, Bluffton & Chicago, 752  
 Cincinnati, Chicago & St. Louis, 213  
 Cincinnati, Hamilton & Dayton, 69, 548, 752, 1067  
 Cincinnati Northern, 284  
 Cleveland, Cincinnati, Chicago & St. Louis, 71, 1185, 1188, 1237, 1813  
 Cleveland Railway, 548  
 Colorado Southern, New Orleans & Pacific, 920  
 Coronado Railway, 1569  
 Crystal City & Uvalde, 381  
 Cuba Railroad, 165  
 Dallas, Cleburne & Southwestern, 430  
 Delaware & Eastern, 381, 462, 549  
 Delaware & Hudson, 1017, 1185, 1237, 1392  
 Delaware, Lackawanna & Western, 69  
 Delaware Railroad, 115, 381, 1569  
 Denver & Rio Grande, 920  
 Denver, Laramie & Northwestern, 430, 1237  
 Detroit, Mackinac & Marquette (Land Grant), 1017  
 Detroit, Toledo & Ironton, 69, 210, 330, 462, 549, 1569  
 Dominion Atlantic Railway, 1283

Duluth, Winnipeg & Pacific, 1392, 1569  
 Dunkirk, Allegheny Valley & Pittsburgh, 1569  
 Erie, 282  
 Florida Railway, 381, 1326  
 Fort Dodge, Des Moines & Southern, 1570  
 Frederick Railroad, 1283  
 Galveston, Harrisburg & San Antonio, 330, 971, 1570  
 Geneva & Auburn, 1326  
 Georgia Railroad & Banking Co., 1326  
 Georgia, Southern & Florida, 920  
 Georgia, Southwestern & Gulf, 381, 430  
 Gila Valley, Globe & Northern, 330  
 Grand Trunk, 430, 462  
 Grand Trunk Pacific, 282  
 Grand Trunk Pacific Branch Lines, 1067  
 Grand Trunk Western, 1283  
 Great Northern, 282  
 Green Bay & Western, 282  
 Groveton, Lufkin & Northern, 165  
 Gulf & Ship Island, 282, 381  
 Gulf Line Railway, 430  
 Gulf, Texas & Western, 115  
 Hawkinsville & Florida Southern, 430  
 Hocking Valley, 752, 851, 971, 1017, 1115, 1185, 1283, 1392, 1438  
 Houston & Texas Central, 971, 1326  
 Hudson & Manhattan, 330, 384  
 Hudson Companies, 381  
 Illinois Traction Co., 282  
 Illinois Tunnel Co. (Chicago Subway), 851  
 Interborough Metropolitan, 1392  
 Interborough Rapid Transit, 1283  
 International & Great Northern, 1017, 1185, 1239, 1283  
 Iron Mountain Railroad of Memphis, 381  
 Jamestown, Franklin & Clearfield, 552  
 Joplin Union Station, 430  
 Kanawha & Michigan, 854, 920, 1018, 1115  
 Kansas City Belt, 549  
 Kansas City, Mexico & Orient, 115, 549, 1067  
 Kansas City Southern, 210  
 Kansas City Terminal, 430, 549  
 Kansas City Viaduct & Terminal, 282  
 Lake Erie & Western, 920  
 Lake Shore & Michigan Southern, 115, 165, 210, 549, 552, 752, 971, 1018, 1067, 1813  
 Lake Superior Corporation, 1185  
 Laramie, Hahn's Peak & Pacific, 1570  
 Lehigh Valley, 165, 922, 1070, 1813  
 London & North Western, 851  
 Los Angeles Pacific Co., 1326  
 Louisiana & Arkansas, 282, 330  
 Louisville Railway, 165  
 McKeesport Connecting, 115  
 Maine Central, 854  
 Manufacturers' Railway (St. Louis), 549, 920  
 Maricopa & Phoenix, 330  
 Maryland & Pennsylvania, 1185  
 Massachusetts Electric, 210  
 Memphis, Dallas & Gulf, 1237  
 Memphis, Paris & Gulf, 1237  
 Metropolitan Street Railway (New York), 462, 1067, 1438, 1570  
 Mexican International, 1570  
 Michigan Central, 462, 1438, 1813  
 Minneapolis, St. Paul & Sault Ste. Marie, 384, 549, 1237, 1283  
 Missouri, Kansas & Texas, 430, 1237, 1392, 1570  
 Missouri, Oklahoma & Gulf, 1018  
 Missouri Pacific, 165, 211, 549, 1185, 1283  
 Mohawk Valley Co., 1018, 1239  
 Montana Railroad, 115  
 Mt. Airy & Eastern, 115  
 Nashville, Chattanooga & St. Louis, 115  
 National City & Otay, 1570  
 National Railways of Mexico, 1237, 1570  
 New Jersey & Pennsylvania, 752, 851  
 New Mexico Central, 165, 1570  
 New Orleans Great Northern, 282, 330  
 New Orleans, Mobile & Chicago, 211  
 New Orleans, Texas & Mexico, 920  
 New York Central & Hudson River, 69, 165, 211, 462, 549, 920, 971, 1070, 1115, 1237, 1570, 1572, 1813  
 New York, Chicago & St. Louis, 211  
 New York City Railway, 282  
 New York, New Haven & Hartford, 115, 430, 1283, 1326, 1392, 1438, 1570  
 New York, Ontario & Western, 971  
 New York, Philadelphia & Norfolk, 1018, 1115  
 New York State Railways, 1018, 1239  
 New York, Susquehanna & Western, 282

Norfolk & Southern, 69, 752, 1185  
 Norfolk & Western, 211, 462, 549, 752, 1185, 1283, 1392  
 Norfolk Southern, 1237, 1570  
 Northern Central, 211, 430, 462  
 Northern Pacific, 165, 1067  
 Old Colony, 211  
 Oregon & Southeastern, 1283  
 Oregon Electric, 1237  
 Oregon Railroad & Navigation Co., 211  
 Oregon Short Line, 165  
 Oxford Mountain Railway, 430  
 Pacific & Idaho Northern, 69  
 Pan-American Co., 211  
 Pennsylvania Co., 211, 971  
 Pennsylvania Railroad, 211, 462, 851, 1018, 1326  
 Peoria & Eastern, 333  
 Philadelphia & Western, 971  
 Philadelphia, Baltimore & Washington, 381, 1570  
 Philadelphia Rapid Transit, 1185  
 Pittsburgh & Lake Erie, 165, 971  
 Pittsburgh & Shawmut, 381, 1185, 1326  
 Pittsburgh, Cincinnati, Chicago & St. Louis, 211, 1570, 1813  
 Pittsburgh, Shawmut & Northern, 381, 430  
 Pittsburgh, Westmoreland & Somerset, 330  
 Pittsburgh, Youngstown & Ashtabula, 972  
 Porto Rico Railways, 69  
 Public Service Investment, 549  
 Quakertown & Eastern, 1237  
 Quebec & Lake St. John, 115, 211, 282, 381  
 Quebec Oriental, 1570  
 Reading Co., 430, 1570  
 Rock Island Co., 165, 1018  
 Roscoe, Snyder & Pacific, 1438  
 Rutland Railroad, 972  
 St. Louis & San Francisco, 165, 851, 920, 972, 1018, 1185, 1283  
 St. Louis, Brownsville & Mexico, 165, 549, 1237  
 St. Louis, Iron Mountain & Southern, 381, 549, 920  
 St. Louis, Rocky Mountain & Pacific, 381  
 St. Louis Southwestern, 1018, 1326  
 St. Louis, Springfield & Peoria (Electric), 282  
 San Diego Southern, 1570  
 San Pedro, Los Angeles & Salt Lake, 69  
 Santa Fe, Liberal & Englewood, 330  
 Santa Fe, Raton & Des Moines, 330  
 Santa Fe, Raton & Eastern, 330  
 Savannah, Augusta & Nthn., 330, 851, 1115  
 Scranton, Dunmore & Moosic Lake, 330  
 Seaboard Air Line, 115, 752, 1283, 1570  
 Seaboard & Moosehead, 1018  
 Southern Indiana, 211, 462, 1326, 1438  
 Southern Pacific, 69, 165, 282, 330, 1185, 1326, 1392, 1438, 1570  
 Southern Railway, 168, 211, 972, 1067, 1237, 1392  
 Stamford & Northwestern, 851  
 Tellico Railroad, 851  
 Terminal Railroad Association of St. Louis, 1067  
 Texas & Pacific, 430, 1438  
 Texas Central, 1185, 1392, 1570  
 Third Avenue (New York), 282, 549, 1115  
 Toledo & Ohio Central, 462  
 Tombigbee Valley, 1018  
 Tonopah & Goldfield, 1018  
 Trinity Valley & Northern, 211  
 Tucumcari & Memphis, 1392  
 Twenty-eighth & Twenty-ninth Street Cross-town (New York), 549  
 Twin-City Rapid Transit, 851  
 Underground Electric of London, 211, 1018  
 Union Pacific, 165, 211, 282, 381  
 Union Railway of Memphis, 381  
 United Railways (Portland), 1237  
 United Railways of Yucatan, 1018  
 Valley Railroad (Va.), 1392  
 Vandalia, 851, 972, 1018  
 Wabash, 69, 165, 920, 1018, 1326  
 Wabash-Pittsburgh Terminal, 115, 333, 430, 1067, 1237, 1326, 1813  
 Washington, Baltimore & Annapolis, 549, 1326  
 Western Maryland, 165, 381, 462, 549, 851, 972  
 Western Ohio, 1392, 1570  
 Western Pacific, 920  
 Wheeling & Lake Erie, 333, 1237, 1326  
 Wichita Falls & Northwestern, 752  
 Winston-Salem Southbound, 211, 381  
 Wisconsin & Michigan, 282  
 Wisconsin Central, 462  
 Worcester, Nashua & Rochester, 549